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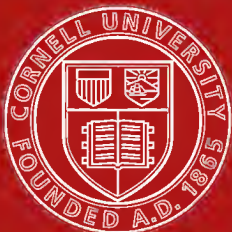
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PROCEEDINGS
OF THE
FIRST ANNUAL GOOD
ROADS AND LEGISLATIVE
CONVENTION



HELD AT
BUFFALO, N. Y., JULY 7-8
1908



CHARLES THADDEUS TERRY, New York. Chairman Legislative Board, American Automobile Association.

JAMES H. MACDONALD, Hartford, Conn. President American Road Makers' Association.

ALFRED REEVES, New York. Representing the American Motor Car Manufacturers' Association.

ROBERT P. HOOPER, Philadelphia. Chairman Good Roads Board, American Automobile Association.

WILLIAM H. HOTCHKISS, Buffalo. President American Automobile Association.

FREDERICK H. ELLIOTT, New York. Secretary American Automobile Association.

FRANK B. HOWER, Buffalo, N. Y. Chairman Touring Board, American Automobile Association. President Automobile Club of Buffalo.

EX-GOVERNOR N. J. BACHELDER, Concord, N. H. Master of National Grange.

S. D. WALDON, Detroit, Mich. Representing the National Association of Automobile Manufacturers.

PROCEEDINGS
OF THE
FIRST ANNUAL GOOD ROADS
AND LEGISLATIVE
CONVENTION

CALLED BY THE
AMERICAN AUTOMOBILE ASSOCIATION

AND COÖPERATED IN BY THE
NATIONAL GRANGE, AMERICAN ROADMAKERS' ASSOCIATION,
NATIONAL ASSOCIATION OF AUTOMOBILE MANU-
FACTURERS, AND AMERICAN MOTOR CAR
MANUFACTURERS' ASSOCIATION.



HELD AT
BUFFALO, N. Y., JULY 7-8,
1908.

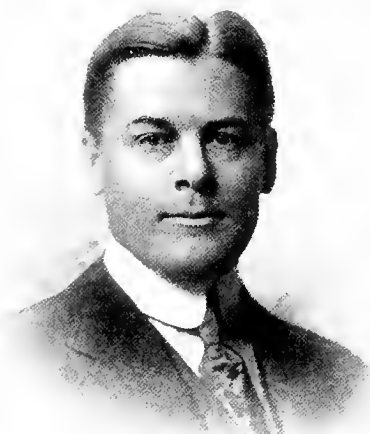
FW

NATIONAL COMMITTEE IN CHARGE

- ROBERT P. HOOPER, Philadelphia, Pa.
Chairman Good Roads Board, American Automobile Association.
- N. J. BACHELDER, Concord, N. H.
Master of the National Grange.
- JAMES H. MACDONALD, Hartford, Conn.
President American Road Makers Association.
- CHARLES THADDEUS TERRY, New York
Chairman Legislative Board, American Automobile Association.
- S. D. WALDON, Detroit, Mich.
Representing the National Association of Automobile Manufacturers.
- ALFRED REEVES, New York
Representing the American Motor Car Manufacturers Association.
- FRANK B. HOWER, Buffalo, N. Y.
President Automobile Club of Buffalo.
- WILLIAM H. HOTCHKISS, Buffalo, N. Y.
President American Automobile Association.
- FREDERICK H. ELLIOTT, New York
Secretary American Automobile Association, 437 Fifth Avenue, New York.



GEO. C. DIEHL
Chairman Committee Practical Demonstration



JOHN L. CLAWSON
Chairman Entertainment Committee



H. A. MELDRUM
Chairman Finance Committee



A. H. KNOLL
Chairman Reception Committee

COMMITTEE CHAIRMEN REPRESENTING THE AUTOMOBILE CLUB OF BUFFALO

AUGUSTUS H. KNOLL
Chairman, Reception Committee.

JOHN L. CLAWSON,
Chairman, Entertainment Committee.

H. A. MELDRUM,
Chairman, Finance Committee.

GEORGE C. DIEHL,
Chairman, Practical Demonstrations.

CONVENTION PROGRAM

MONDAY, JULY 6, 1908

REGISTRATION AND RECEPTION OF GUESTS, DELEGATES, AND VISITORS.

TUESDAY, JULY 7, 1908

10.00 A. M. OPENING ADDRESS — President William H. Hotchkiss, of the American Automobile Association.

10.15 A. M. ADDRESS OF WELCOME — Mayor J. N. Adam, of Buffalo.

10.30 A. M. RECEIPT OF CREDENTIALS AND APPOINTMENT OF COMMITTEES.

10.45 A. M. LEGISLATIVE SESSION — In charge of Charles Thaddeus Terry, of New York, Chairman A. A. A. Legislative Board.

Addresses

OPENING ADDRESS — Chairman Terry.

“FEDERAL AUTOMOBILE LEGISLATION” — Hon. W. W. Cocks, Congressman from New York.

“THE CONSTITUTIONALITY OF FEDERAL AUTOMOBILE REGISTRATION” — Neal Brown, President of the Wisconsin State Automobile Association.

“UNREASONABLE STATE LEGISLATION” — W. C. Crosby, Chairman Legislative Committee of the Associated Automobile Clubs of New Jersey.

“UNIFORM STATE AUTOMOBILE LEGISLATION” — Walter S. Schutz, Counsel of the Connecticut Automobile Association and the Hartford Automobile Club.

12.00 M. OPEN SESSION — Under the two-minute rule.

TUESDAY AFTERNOON SESSION

2.00 P. M. FIRST GOOD ROADS SESSION — In charge of Robert P. Hooper, of Philadelphia, Chairman A. A. A. Good Roads Board.

Addresses

OPENING ADDRESS — Chairman Hooper.

“GOOD ROADS” — James H. MacDonald, State Highway Commissioner of Connecticut, and President of the American Road Makers Association.

“HISTORY OF THE DEVELOPMENT OF IMPROVED HIGHWAYS” — Frederick Skene, State Engineer and Surveyor of New York.

CONVENTION PROGRAM—CONTINUED

“SEVEN MINUTES ON THE ROADS OF THE WORLD” — Charles J. Glidden, of Boston.

“DRAINAGE AND SUB-BASE OF IMPROVED ROADS” — Horatio S. Earle, State Highway Commissioner of Michigan.

“ROAD IMPROVEMENTS IN PENNSYLVANIA” — Joseph W. Hunter, State Highway Commissioner of Pennsylvania.

“ROAD PROBLEMS IN THE STATE OF ILLINOIS” — A. N. Johnson, State Engineer of Illinois.

“EFFECT OF AUTOMOBILES ON MACADAM ROADS, AND THE QUESTION OF PRESERVATION UNDER NEW CONDITIONS” — L. W. Page, Director of the Office of Public Roads in the Department of Agriculture, Washington.

“ROAD PROBLEMS FOR AUTOMOBILISTS” — R. D. Beman, Deputy State Highway Commissioner of Pennsylvania.

“MAINTENANCE OF IMPROVED HIGHWAYS” — James E. Owen, of the Newark (N. J.) Board of Trade.

“THE LINCOLN WAY” — Robert B. Caverly, President of the Automobile Club of Washington, D. C.

“GOOD ROADS AND THEIR BENEFITS” — William L. Raeder, President Board of Trade, Wilkes-Barre, Pa.

5.00 P. M. OPEN SESSION — Under the two-minute rule.

8.15 P. M. CONVENTION THEATER PARTY — At Shea's Theater.

WEDNESDAY, JULY 8, 1908

10.00 A. M. SECOND GOOD ROADS SESSION — In charge of Chairman Hooper.

10.05 A. M. Reports of Committees and action thereon.

Addresses

“FEDERAL APPROPRIATION FOR ROAD IMPROVEMENT” — Ex-Governor N. J. Bachelder of New Hampshire, Master of the National Grange.

“NEW YORK'S HIGHWAY CODE” — Senator Jotham P. Allds, of New York.

“ERA OF NEW ROAD MAKING IN ONTARIO” — A. W. Campbell, Deputy Minister of Public Works, Province of Ontario.

“THE CALL FOR GOOD ROADS AND THE PROPRIETY AND NEED OF FEDERAL AID” — F. A. Derthick, Master of the Ohio State Grange.

CONVENTION PROGRAM—CONTINUED

“SPECIAL ROAD CONSTRUCTION” — A. R. Pardington, of New York, General Manager of the Long Island Motor Parkway.

“THE HIGHWAYS OF MASSACHUSETTS” — Harold Parker, Chairman Massachusetts State Highway Commission.

“IMPROVEMENT OF TOWN ROADS” — Stephen Ryan, State Road Director in New York.

“GOOD ROADS AND AUTOMOBILING FROM THE FARMER’S STANDPOINT” — F. N. Godfrey, Master of the New York State Grange.

“TREATMENT OF THE EARTH ROADS” — D. Ward King, of the Missouri State Board of Agriculture.

“ROAD PROBLEMS OF THE PACIFIC COAST” — James W. Abbott, of Nevada, late U. S. Highway Commissioner for the Rocky Mountain and Pacific Coast States.

12.30 P. M. OPEN SESSION — Under the two-minute rule.

1.00 P. M. ADJOURNMENT SINE DIE.

2.30 P. M. PRACTICAL DEMONSTRATIONS ON THE WILLIAMSVILLE, GOODRICH AND CLINTON STREET ROADS; inspection in automobiles furnished by the Automobile Club of Buffalo, to be taken at the Hotel Iroquois.

7.30 P. M. CONVENTION BANQUET, HOTEL IROQUOIS.

DELEGATES AND OFFICIAL GUESTS, WITH THEIR OFFICIAL NUMBER, REGISTERED AT A. A. A. HEADQUARTERS

1. Robert P. Hooper, Philadelphia, Chairman of Convention.
2. William H. Hotchkiss, Buffalo, President A. A. A.
3. S. Boyer Davis, Secretary Auto Club of Philadelphia.
4. Frank G. Webb, Brooklyn, N. Y., Racing Board, A. A. A.
5. Alfred Wilmarth, Brooklyn, N. Y., Long Island Auto Club.
6. Laurens Enos, Buffalo, Auto Club of Buffalo.
7. L. M. Bradley, New York City, Manager Publicity Department.
8. George B. Baird, Oneonta, N. Y., Oneonta Auto Club.
9. L. H. Townsend, Oneonta, N. Y., Oneonta Auto Club.
10. W. M. Hagar, Cleveland, Ohio State Auto Association.
11. Frederick H. Huston, Columbus, Ohio, Ohio State Auto Association.
12. Arthur L. Stark, Elyria, Ohio, Elyria Auto Club.
13. Asa Goddard, Cleveland, Cleveland Auto Club.
14. W. C. Thoma, Pittsburg, Auto Club of Pittsburg.
15. Frederick H. Elliott, Bronxville, N. Y., Secretary A. A. A.
16. Roy F. Britton, St. Louis, Treasurer Missouri State Auto Association.
17. Dr. E. C. Wagner, Wilkes-Barre, Pa., Wilkes-Barre Auto Club.
18. James W. Abbott, Pioche, Nev., State Representative.
19. John C. Kerrison, Boston, Bay State Auto Club.
20. Russell A. Field, Brooklyn, Long Island Auto Club.
21. Frank H. Nutt, Kokomo, Ind., Chicago Motor Club.
22. Seymour P. White, Buffalo, Auto Club of Buffalo.
23. Crow Cooley, Minneapolis, State Engineer.
24. C. Gordon Neff, Cincinnati, President Ohio State Auto Association.
26. Jos. W. Hunter, Harrisburg, State Highway Commissioner.
27. Albert E. Lerche, Springfield, Mass., Springfield Auto Club.
28. Mark Aitken, Springfield, Mass., Springfield Auto Club.
29. Henry E. Marsh, Springfield, Mass., Springfield Auto Club.
30. Henry R. Burbeck, North Abington, Mass., Brockton Auto Club.
31. Chas. P. Price, Malden, Mass., Malden Auto Club.
32. John R. Rablin, Boston, Malden Auto Club.
33. Linn White, Chicago, Chief Engineer Parks.
34. Wm. J. Donnelly, Philadelphia, Quaker City Auto Club.
35. S. D. Bartlett, Philadelphia, Quaker City Auto Club.
36. Edwin H. Lewis, Philadelphia, Quaker City Auto Club.
37. L. E. French, Philadelphia, Quaker City Auto Club.
38. John P. Coghlin, Worcester, Mass., Worcester Auto Club.
39. A. D. Converse, Winchenden, Mass., Wachusett Auto Club.
40. W. H. Chase, Leominster, Mass., Wachusett Auto Club.
41. Harold Parker, Lancaster, Mass., State Highway Commissioner.
42. John S. G. Demont, Bryn Mawr, Pa.
43. E. L. Powers, New York, Secretary American Road Makers Association.
44. Will O. Blair, Indianapolis, Secretary N. P. Mfgs. Association.
45. F. N. Williams, Buffalo, Resident Engineer.
46. Pike Campbell, Louisville, President Louisville Automobile Club.
47. Fred N. Root, Kalamazoo, Mich., Kalamazoo Auto Club.
48. C. Walter Betts, Buffalo, Auto Club of Buffalo.
49. William A. Umlauf, Buffalo, Auto Club of Buffalo.
50. Alfred W. Thorn, Buffalo, Auto Club of Buffalo.

51. Curtiss Hill, Columbia, Mo., State Highway Engineer.
52. H. S. Sisson, Collins, N. Y.
53. T. A. Westmyer, Wheeling, W. Va., Wheeling Auto Club.
54. Elmer Hough, Wellsburg, W. Va.
55. Charles Schoenhut, Buffalo, Auto Club of Buffalo.
56. D. E. Barker, Wheeling, W. Va., Wheeling Auto Club.
57. John M. Satterfield, Buffalo, Auto Club of Buffalo.
58. W. W. Brown, Springfield, Vt., President Auto Club of Vermont.
59. W. D. Woolson, Springfield, Vt., Auto Club of Vermont.
61. Paul Schultze, Utica, N. Y., Utica Motor Club.
62. Loring Wagner, Kokomo, Ind., Chicago Motor Club.
63. Paul C. Wolff, Pittsburg, Pa., Pittsburg Auto Club.
64. Edw. Kneeland, Pittsburg, Pa., Pittsburg Auto Club.
65. Edw. J. Kent, Pittsburg, Pa., Pittsburg Auto Club.
66. Geo. W. Knotts, Pittsburg, Pa., Pittsburg Auto Club.
67. M. F. Leslie, Pittsburg, Pa., Pittsburg Auto Club.
68. W. R. Stephens, Wilkinsburg, Wilkinsburg Auto Club.
69. A. J. Puffinberg, Wilkinsburg, Wilkinsburg Auto Club.
70. Geo. T. Barnsley, Pittsburg, Pa., Pittsburg Auto Club.
71. Chas. Thaddeus Terry, New York, Chairman Legislative Board, A. A. A.
72. L. W. Page, Washington, D. C., Public Roads Bureau.
73. W. W. Crosby, Baltimore, Md., State Highway Commissioner.
74. W. H. Dyer, Newport, Highway Commissioner.
75. John Maxwell, Oneida, N. Y., Oneida Auto Club.
76. Fremont Chapin, Oneida, N. Y., Oneida Auto Club.
77. Geo. Hawes, Kansas City, Kansas City Auto Club.
78. L. R. Moore, Jr., Kansas City, Kansas City Auto Club.
79. Wm. E. Goucher, Jamestown, N. Y., Jamestown Auto Club.
80. J. E. Weng, Boston, Mass., Bay State Auto Club.
81. J. P. Allds, Norwich, N. Y., State Senator.
82. Stephen Ryan, Rochester, Director of Roads.
83. John P. Kelly, Rochester, State Engineer.
84. Henry G. Strong, President Rochester Auto Club.
85. B. Van Tyle, Rochester, Rochester Auto Club.
86. F. R. Toewater, Lexington, Ky., Kentucky Auto Club.
87. W. L. Raeder, Wilkes-Barre, Pa., Wilkes-Barre Auto Club.
88. G. B. Ellis, Los Angeles, Auto Club of California.
89. R. D. Beman, Harrisburg, State Highway.
90. James T. Drought, Milwaukee, Milwaukee Auto Club.
91. H. Wegman, Auburn, N. Y., Auburn Auto Club.
92. Lewis R. Speare, Boston, Mass., Bay State Auto Association.
93. Robt. B. Treat, Providence, R. I., Secretary Board Public Roads.
94. Robt. F. Rodman, Providence, R. I., Engineer Public Roads.
95. E. E. Allen, Olean, N. Y., Commissioner.
96. Chas. Cotton, Olean, N. Y., Commissioner.
97. A. R. Stumer, Chicago, Chicago Auto Club.
98. W. P. Northrup, Buffalo, Buffalo Auto Club.
99. A. R. Pardington, New York, Long Island Automobile Club.
100. W. T. Carter, Parkersburg, W. Va., Parkersburg Auto Club.
101. Geo. H. Davis, Kansas City, Mo., Kansas City Motor Club.
102. F. A. Marriam, Mt. Vernon, Mt. Vernon Auto Club.
103. Jacob D. Rider, Lancaster, Pa., Lancaster Auto Club.
104. Chas. J. Glidden, Boston, Mass., Bay State Auto Association.
105. D. Bancroft, Chicago, Chicago Motor Club.

GOOD ROADS AND LEGISLATIVE CONVENTION

106. Oliver A. Quayle, Albany, N. Y., Albany Auto Club.
108. J. C. Wonders, Columbus, Ohio, Highway Commissioner.
109. W. D. West, Washington, D. C., Auto Club of Washington.
110. J. K. Heyl, Washington, D. C., Auto Club of Washington.
111. R. B. Caverly, Washington, D. C., Auto Club of Washington.
112. F. A. Derthick, Mantua, Ohio, Grange Master of Ohio.
113. F. W. Godfrey, Olean, N. Y., Member Grange.
114. Sam D. Capen, St. Louis, Mo., St. Louis Auto Club.
115. C. D. Hakes, Albany, Albany Auto Club.
116. Geo. Ensign, Harrisburg, Pa., Highway Commissioner.
117. Jas. Wilson, Wilmington, Del., Commissioner.
118. H. A. Brown, Wilmington, Del., Commissioner.
119. Francis Hurtenberg, Boston, Massachusetts Auto Club.
120. Neal Brown, Warsaw, Wis., Wisconsin State Association.
121. Walter S. Schulz, Hartford, Conn., Hartford Auto Club.
122. Frank T. Getman, Albany, N. Y., Department State Engineer.
123. Louis B. Harrison, Albany, N. Y., Department State Engineer.
124. Henry B. Brewster, Syracuse, Department State Engineer.
125. Spencer J. Stewart, Binghamton, Department State Engineer.
126. Frederick Steele Strong, Watertown, Department State Engineer.
127. Benj. King, Rahway, N. J., New Jersey Auto Club.
128. A. B. Alderson, West Hartford, Conn., Civil Engineer.
129. D. Ward King, Missouri, Guest.
130. A. N. Johnson, Chicago, Ill., Highway Commissioner.
131. E. B. Sage, Red Rock, Pa., Guest.
132. F. E. Mason, Rochester, Rochester Auto Club.
133. John Mountain, Norristown, Pa., Norristown Auto Club.
134. L. E. Tarbell, Norristown, Pa., Norristown Auto Club.
135. F. M. Jaquith, Norristown, Pa., Norristown Auto Club.
136. W. O. Hotchkiss, Madison, Wis., State Engineer.
137. J. H. MacDonald, New Haven, Conn., Highway Commissioner.
138. B. A. Burtiss, Schenectady, Schenectady Auto Club.
139. Will S. Gilbert, Cleveland, Cleveland Auto Club.
140. Horatio D. Earle, Detroit, Highway Commissioner.
141. Powell Evans, President Auto Club of Philadelphia.
142. H. K. Bishop, Albany, N. Y., Guest.
143. Whida Guchan, New York, National Grange.
144. Henry W. Hill, Buffalo, Commissioner.
145. Wm. W. Cocks, Westbury, Congressman from New York.
146. A. L. Fahstock, Cincinnati, Asphalter.
147. E. W. Hamn, Lyons, Assemblyman.
148. E. J. Wulff, Tarrytown, County Engineer.
149. Will P. Blair, Indianapolis, Paving Association.
150. C. B. Perry, Dupont, L. I., Highway Commissioner.
151. C. F. Chamberlin, Elmira, Highway Commissioner.
152. Samuel Grennow, Long Island City, Highway Commissioner.
153. F. J. McGuire, Verplanck, Highway Commissioner.
154. J. C. Van Arsdale, Manchester, Highway Commissioner.
155. B. M. Patten, Long Island City, Highway Commissioner.
156. Peter Seeber, Laurens, Highway Commissioner.
157. Leo Schlandecker, Erie, Pa., Erie Motor Club.
158. C. J. Forbes, Jr., Secretary Cleveland Automobile Club.
159. C. H. Benedict, President Schenectady Automobile Club.
160. A. L. Garford, Elyria, Elyria Motor Club.

161. W. H. Brown, Indianapolis, Ind., Indianapolis Motor Club.
162. H. Eugene Smith, Mt. Vernon, Supervisor.
163. Edw. A. Forsyth, Yonkers, Supervisor.
164. John S. Lyons, Mt. Vernon, Supervisor.
165. W. Sonnsbury, Peekskill, Supervisor.
166. S. Fletcher Allen, Peekskill, Supervisor.
167. Geo. Turner, Soners Centre, Supervisor.
168. F. S. Hutchinson, New York, "Tarvia."
169. G. H. Haggerson, Menominee, Mich., Commissioner.
170. H. A. Chase, South Milwaukee, Commissioner.
171. John McGlynn, Troy, N. Y., Troy Auto Club.
172. H. W. Claybaugh, Franklin, Pa., Engineer State Highway.
173. Jno. T. Gebhart, Jr., Lancaster, Engineer State Highway.
174. J. R. Wilson, Washington, Pa., Engineer State Highway.
175. H. L. Hoyt, Auburn, N. Y., Auburn Auto Club.
176. F. A. Godcharles, Milton, Pa., Central, Pa., Auto Club.
177. W. B. Godcharles, Milton, Pa., Central, Pa., Auto Club.
178. J. H. Wood, Orange, N. J., New Jersey Auto Club.
179. W. Clive Crosby, East Orange, N. J., New Jersey Auto Club.
180. H. A. Bonnell, East Orange, N. J., New Jersey Auto Club.
182. James E. Owen, Montclair, N. J., Engineer.
183. E. Kendrick.
184. S. J. Luzer, Wilkinsburg.
185. G. A. Flink, Harrisburg, Pa., Engineer.
187. Chas. F. Foley, Lockport, Assemblyman.
188. W. C. Barry, Jr., Rochester, Rochester Auto Club.
189. A. W. Campbell, Toronto, Highway Commissioner of Ontario.
190. D. M. Munro, Buffalo.
191. C. W. Bosler, Hollidaysburg, Pa., Engineer.
192. W. A. Wynn, Warren, Pa., Engineer.
193. Edw. S. Frey, York, Pa., Engineer.
194. C. E. Dangers, Harrisburg, Pa., Engineer.
195. John Gick, Saratoga Springs, N. Y., Engineer.
196. Enos D. Garrett, Philadelphia, Engineer.
197. Arthur L. Clay, Bloomsburg, Pa., Engineer.
198. George N. Biles, Harrisburg, Pa., Engineer.
199. C. W. Hardt, Harrisburg, Pa., Engineer.
200. C. D. Wilson, Harrisburg, Pa., Engineer.
201. C. L. Lowry, Springfield, Mass., Auto Club of Springfield.
202. S. W. Jackson, Wellsboro, Pa., Engineer.
203. Warren Cressman, Allentown, Pa., Engineer.
204. Arthur W. Long, Scranton, Pa., Engineer.
205. W. H. Mandeville, Olean, N. Y., Mayor.
206. F. P. Shaner, Olean, N. Y., Alderman.
207. A. G. Chapman, Albany, Engineer.
208. R. D. Chapin, Detroit, Auto Club of Detroit.
209. S. C. Tallman, Auburn, N. Y., Auburn Auto Club.
210. C. R. Gibson, Salamanca, N. Y., Cattaraugus Co. Auto Club.
211. Geo. W. Sparks, Wilmington, Del., State Representative.
212. Thos. H. Melvin, Wilmington, Del., State Representative.
213. John G. Gray, Wilmington, Del., State Representative.
214. R. Kennerdell, Franklin, Pa., Auto Club of Franklin.
215. S. Percy Hooker, Le Roy, N. Y., State Senator.
216. Geo. T. Heath, Olean, N. Y., Resident Engineer.

GOOD ROADS AND LEGISLATIVE CONVENTION

- 217. George Forbes, Olean, N. Y., Auto Club of Cattaraugus Co.
- 218. Arthur Warren, Rochester, New York State Delegation.
- 219. K. R. Otis, Cleveland, Good Roads Committee of Ohio.
- 222. Daniel P. Ray, Olean, N. Y., Auto Club of Cattaraugus Co.
- 223. S. B. Humphrey, Warsaw, N. Y., Highway Commissioner.
- 224. Fred H. Pierce, Warsaw, N. Y., Highway Commissioner.
- 226. E. H. White, Rochester.
- 227. Edwin S. George, Detroit, Auto Club of Detroit.
- 228. U. H. Dandurand, Montreal, Que., V. P., Auto Club, Canada.
- 229. Geo. Stevenson, Toronto, Ontario Motor League.

VISITORS REGISTERED AT A. A. A. HEADQUARTERS

E. E. Schwarzkopf, New York, Automobile Topics.
 J. W. Miller, Sandusky.
 Charles M. Conner, Philadelphia, G. V. Cresson Company.
 Jos. G. Rider, Lycoming, Pa., Supervisor.
 W. M. Miller, Lycoming, Pa., Supervisor.
 N. F. Dotterer, Chester, Pa., Supervisor.
 B. M. Marlin, Du Bois, Pa., Supervisor.
 W. J. Marlin, Du Bois, Pa., Supervisor.
 A. R. Van Tassell, Du Bois, Pa., Supervisor.
 D. E. Hibner, Du Bois, Pa., Supervisor.
 H. Leo Ginther, Buffalo.
 Arthur P. Lord, Cincinnati, Liquid Asphalt Company.
 J. G. Miller, Chicago, 20th Century Grader.
 Benj. P. Richardson, Boston.
 G. S. Romaley, Franklin, Pa., Supervisor.
 Jas. B. Barron, New York, 20th Century Grader.
 Chas. M. Jarvis, New York, Good Roads Magazine.
 H. L. Powell, New York, Good Roads Magazine.
 Philip S. Flinn, Pittsburg, Pittsburg Auto Club.
 J. Walt Ruddach, Jenkinstown, Pa., Civil Engineer.
 Bryan McCracken, Jenkinstown, Pa., Civil Engineer.
 G. D. Carr, Chicago, Standard Roadway Company.
 Arthur Bles, Paris, France, Automobilia.
 William McK. White, Philadelphia, Quaker City Auto Club.
 Willis Rohrer, Lancaster, Pa., Supervisor.
 Frank G. Lowry, Indianapolis, Indianapolis Press.
 O. P. Harkinson, Stockton, Cal.
 Wm. S. Noyes, Chicago, Ill., National Radiator Emblem.
 H. H. Hower, Cleveland, Plain Dealer.
 A. L. Fahnestock, Cincinnati, Asphaltoilene.
 J. A. Ballard, Detroit.
 M. J. Smith, Corry, Pa., County Commissioner.
 Grant J. Smith, Erie, Pa., County Commissioner.
 C. B. Loreag, Erie, Pa., County Commissioner.
 Harry F. Shepp, New York, New York Press.
 C. W. Talbot, Martinsburg, W. Va.
 Thos. W. Lyons, Rochester, Rochester Auto Club.
 R. E. Brooks, Marilla, N. Y., Du Pont Powder Company.
 Geo. P. McGrath, Cleveland.
 John Goodrich, Constantia, N. Y., Supervisor.
 E. G. Zelter, New York.
 W. B. Spencer, New York, Imperial Road Company.
 J. Edgar Black, Kansas City, Mo., Imperial Road Company.
 W. F. Richards, Depew.
 Benj. H. Eden, Depew.
 Edw. C. Leslie, Pittsburg, Pa.
 W. Y. Marat, Syracuse, N. Y., Calcide Process.
 Russell A. Field, Brooklyn, N. Y., Brooklyn Eagle.
 J. D. Gillespie, Pittsburg, Pa.
 S. J. Leezer, Wilkinsburg.
 E. B. Milligan, Wilkinsburg.

GOOD ROADS AND LEGISLATIVE CONVENTION

Frederic J. Nash, Brooklyn, N. Y.
Winthrop E. Scarritt, East Orange, N. J.
A. T. Danogh, Toronto.
D. T. Macpherson, North Tonawanda.
F. O. Crandall, Falconer, N. Y., Highway Commissioner.
W. H. Heath, Greenock, Pa., Supervisor.
Adam Beyrely, Buena Vista, Supervisor.
H. M. Sweetland, New York.
J. S. Summer, Rochester.
Chas. R. Carruth, Rochester, Rochester Club.
E. F. Gwynn, Pittsburg, Pittsburg Club.
Florence Gwynn, Pittsburg, Pittsburg Club.
Anna Gwynn, Pittsburg, Pittsburg Club.
Mrs. E. F. Gwynn, Pittsburg, Pittsburg Club.
L. G. Martin, Pittsburg, Pittsburg Club.
Byron Hough, Wellsburgh, W. Va., Ohio Valley Club.
Victor Hough, Wellsburgh, W. Va., Ohio Valley Club.
Henry B. Brewster, Syracuse, N. Y., Division State Engineer.
Spencer J. Stewart, Binghamton.
H. T. Shotwell, Glen Cove, N. Y., Highway Commissioner.
Warren T. Cressman, Allentown, Pa., Highway Commissioner.
Edwin S. Frey, York, Pa., Highway Commissioner.
S. W. Jackson, Wellsboro, Pa., Highway Commissioner.
S. S. T. Lansing, Rochester, Rochester Club.
M. A. Popkess, Kansas City, Mo., Imperial Pavement Company.
R. W. DeNoon, Pittsburg, Pa.
R. B. Taggart, Pittsburg, Pa.
G. M. Toewater, Lexington, Ky., Blue Grass Club.
Enos D. Garrett, Philadelphia, Highway Commissioner.
John T. Genhart, Jr., Lancaster, Pa., Highway Department.
R. C. Jacobs, Philadelphia.
Benj. King, Rahway, N. J.
S. R. Ryno, Rahway, N. J.
N. R. Reavitt, Elizabeth, N. J.
F. Pierson, Elizabeth, N. J.
G. H. Biles, Harrisburg, Pa., Highway Commissioner.
W. H. Wilson, Indian Lake.
G. A. Flink, Harrisburg, Pa.
H. W. Claybough, Franklin, Pa., Highway Commissioner.
B. L. Andrews, Salamanca, Supervisor.
P. H. Dewey, Wellsboro, Pa.
S. O. Putnam, Wellsboro, Pa.
H. H. Crooker, Wellsboro, Pa.
F. A. Gingle, Union Springs, N. Y., Supervisor.
E. C. Porter, Meriden, Supervisor.
Gerry Quill, Auburn, N. Y., Supervisor.
S. R. Wilson, Washington, Street Highway Commissioner.
C. E. Douglas, Harrisburg, Pa., Street Highway Commissioner.
Geo. A. Warner, Harrisburg, Pa., Street Highway Commissioner.
Chas. E. Jones, Greensfield, Street Highway Commissioner.
Arthur Halay, Bloomsburg, Street Highway Commissioner.
W. A. Wynn, Warren, Pa., Street Highway Commissioner.
Peter Blatt, Pittsburg, Pa.
A. A. Kessler, Canastota, N. Y.

L. S. Pitkin, Lorraine, Highway Commissioner.
 J. R. Paulring, Watertown, Good Roads Commissioner.
 H. H. Howe, Alexander Bay, N. Y., Supervisor.
 J. M. Fitzgerald, Sag Harbor, N. Y., Supervisor.
 C. D. Wilson, Harrisburg, Pa., Supervisor.
 Cassine Congdon, W. Clarksville, Supervisor.
 R. G. Hasdenberger, Wallkill, N. Y., Road Commissioner.
 Samuel Udcook, Syracuse, Supervisor.
 C. W. Hardt, Harrisburg, Pa., Highway Department.
 W. N. Winslow, Canastota, Supervisor.
 Jas. T. Sullivan, Boston, Boston Globe.
 Wm. A. Krohn, New York, New York Press.
 C. W. Bosler, Hollidaysburg, State Highway Commissioner.
 J. W. Soreter, Canastota, Supervisor.
 J. S. Patterson, Chicago, Ill., Press.
 Andrew Beveridge, Delancy, Supervisor.
 W. D. Shepard, Syracuse, Highway Commissioner.
 E. C. Dunning, Jr., White Plains, Highway Commissioner.
 David McAndlers, White Plains, Highway Commissioner.
 W. A. O. Cole, New York, Cement Company.
 D. B. Billick, Elizabeth, N. J., Supervisor.
 B. E. Holmes, Boston, Mass., Worcester Club.
 J. M. Fitzgerald, S. Harbor, Supervisor.
 O. L. Winslow, Clayton, N. Y., Highway Commissioner.
 Herbert Given, New York, Road Builder.
 F. T. Hallam, Pittsburg, Press.
 C. H. Smith, Middletown, Engineer.
 W. E. Voorhees, Kennett Square, N. Y., Road Machinery.
 Arthur N. Jervis, New York.
 O. C. Foster, Cleveland, Ohio, Cleveland Automobile Club.
 W. A. Goodwin, Catskill, N. Y., Highway Commissioner.
 W. S. Palmer, Catskill, N. Y., Guest.
 D. Webster Anders, Philadelphia, Paving Company.
 Thos. Sheehan, Java, Highway Commissioner.
 J. A. Carroll, Java, Highway Commissioner.
 H. C. Follett, Avon, N. Y., Highway Commissioner.
 M. H. West, Chicago, Ill., Superintendent Road System.
 L. Templeton, Norristown, Pa., Norris Auto Club.
 H. A. Chappell, Avon, N. Y., Highway Commissioner.
 H. L. Estey ("Pete"), Chicago, Press.
 Zita L. Squire, Jamestown, N. Y., Supervisor.
 G. A. Matteson, East Otto, Supervisor.
 Fred Wolfe, South Dayton, N. Y., Highway Commissioner.
 E. J. Cheney, Sandusky, N. Y., Supervisor.
 Alfred B. Kent, Nunda, N. Y., Highway Commissioner.
 J. F. Richardson, Albany, N. Y., Road Rollers.
 Frank Bevins, Olean, N. Y., Supervisor.
 H. J. Prissey, Fredonia.
 B. E. Randon, Fredonia.
 Seymour Warner, New York.
 Stuart Darrow, Owego.
 W. R. Adams, Bedford, N. Y., Highway Commissioner.
 Thos. O'Brien, Bedford, N. Y., Highway Commissioner.
 N. S. Holcomb, Portville, N. Y., Supervisor.

GOOD ROADS AND LEGISLATIVE CONVENTION

Robt. Thurman, St. Louis, Mo.
Robt. Holmes, Jr., Castile, N. Y., Commissioner.
W. H. Washburn, Silver Springs, N. Y., Commissioner.
J. T. Peck, Gainesville, N. Y., Commissioner.
N. H. Blanvelt, Syracuse, N. Y., Tar Roads.
J. W. Brainard, Pittsburg, Pittsburg Auto Club.
N. L. Cole, Holley, N. Y., Supervisor.
F. J. Maguire, Holley, N. Y., Highway Commissioner.
E. M. Blake, Kendall, N. Y., Supervisor.
John Quinn, Rochester, N. Y., Highway Commissioner.
Fred McElheny, Rushford, N. Y., Highway Commissioner.
G. J. Wilson, South Butler, N. Y., Supervisor.
W. G. Sisson, Lyons, N. Y., Supervisor.
H. L. Hoyt, Lyons, N. Y., Supervisor.
E. T. Boyd, Sodus, N. Y., Supervisor.
C. T. Griswold, Palmyra, N. Y., Supervisor.
E. E. Burleigh, Newark, N. Y., Supervisor.
H. J. McCall, Gainesville, N. Y., Commissioner.
E. L. Gilchrist, Philadelphia, Pa., Press.
H. S. Duncan, Wallington, N. Y., Commissioner.
W. F. Kaiser, Lyons, N. Y., Commissioner.
S. D. Reeves, Newark, N. Y., Commissioner.
C. H. Hedden, Palmyra, Commissioner.
C. Landen, Avon, Supervisor.
W. J. Washburn, North Elba, Highway Commissioner.
E. P. Ouchie, Eggertsville, N. Y., Supervisor.
Arthur W. Long, Scranton, Pa., State Engineer.
C. A. Porter, Fallsburg, Justice of Peace.
Wilber Hendrickson, Fallsburg, Commissioner of Highways.
W. H. Lee, Wolcottsville, N. Y., Supervisor.
F. Eich, Middleport, N. Y., Highway Commissioner.
A. McKeever, Mayville, N. Y., Highway Commissioner.
S. D. Bolger, Alpine, N. Y., Supervisor.
W. H. Lanhead, Cayuga, N. Y., Supervisor.
Osborn Smith, Reynoldsville, Supervisor.
Louis Catlin, Odessa, N. Y., Town Clerk.
Ira P. Cribb, Canandaigua, N. Y., Highway Commissioner
T. G. Douglass, Canandaigua, N. Y., Highway Commissioner.
H. D. Sine, Alpine, Commissioner.
E. W. Burt, Beaver Dam, Supervisor.
Warren Owens, Alpine, Commissioner.
T. O. Coon, Burdett, Supervisor.
Chas. H. Towhey, Beaver Dam, Commissioner.
S. B. Deim, Hartford, Commissioner.
A. C. Turnbull, Campbell, N. Y., Supervisor.
M. N. Robbins, Corning, N. Y., Commissioner.
Chas. Woodward, Niagara Falls, N. Y., Commissioner.
Elton E. Moag, Niagara Falls, N. Y., Commissioner.
S. G. Lupton, Marathon, N. Y., Road Machines.
J. D. Sullivan, Keiserville, N. Y.
Albert Demary, Westboro, N. Y.
J. W. Schmidt, Morristown, N. Y.
N. C. Dexter, Wellsville, N. Y.
W. A. Marsh, Leon, N. Y., Commissioner.

N. Lazarwick, New York, Photographer.
 Chas. Bastendorf, Le Roy, N. Y.
 H. E. Comford, Victor, N. Y., Justice of the Peace.
 H. H. Perkins, Pittsburg, Pittsburg Auto Club.
 A. L. Banker, Pittsburg, Pittsburg Auto Club.
 Robt. P. McCurdy, Pittsburg, Pa.
 D. R. Deeley, Pittsburg, Pa.
 R. J. Gumbert, Pittsburg, Pa.
 G. S. Snyder, Pittsburg, Press.
 M. E. McMahon, Victor, N. Y., Highway Commissioner.
 D. O'Leary, Douglstown, N. Y.
 W. A. Dodge, Thomastown, N. Y., Supervisor.
 J. W. H. Kelly, Lewiston, N. Y., Supervisor.
 Geo. E. Landy, Barker, N. Y., Highway Commissioner.
 Philip J. Christ, Hyde Park, N. Y., Supervisor.
 C. C. Painter, Oyster Bay, N. Y., Supervisor.
 Monroe Wood, North Hemstead, Town Clerk.
 W. S. Moore, Oyster Bay, N. Y., Highway Commissioner.
 J. K. Hicks, Jessicks, N. Y., Highway Commissioner.
 Frank M. Queen, Oyster Bay, N. Y., Town Clerk.
 Wm. E. Layston, Oyster Bay, N. Y., Clerk Supervisors.
 W. H. Seaman, Glen Cove, N. Y., Engineer.
 Geo. B. Stoddart, Oyster Bay, N. Y., Town Attorney.
 Chas. R. Weeks, Pt. Washington, N. Y., Supervisor.
 Chas. N. Nysong, Pt. Washington, N. Y., Supervisor.
 Chas. L. Fehm, New York, Supervisor.
 Howard V. Lane, Roverhead, N. Y., Supervisor.
 Clark Barnes, East Otto, N. Y., Supervisor.
 O. N. Cook, Watertown, Highway Commissioner.
 C. E. Ernest, Lockport, N. Y., Supervisor.
 Glen W. Treichler, North Tonawanda, Supervisor.
 L. O. Frank, Lockport, Supervisor.
 D. A. Martin, Olcott Beach, N. Y., Justice Peace.
 E. G. Wells, Hannibal, Highway Commissioner.
 B. J. Dashiell, Baltimore, Md., Highway Commissioner.
 F. Robinson, Meadville, Pa., Contractor.
 John Rice, Easton, Pa.
 J. C. Pickard, West Sparton, Supervisor.
 Jno. Moffat, West Sparton, Highway Commissioner.
 Chas. Curry, Dansville, Highway Commissioner.
 D. C. Burns, Watertown, Contractor.
 F. D. Fox, Toronto, Ont.
 E. A. Bonney, Rochester.
 E. C. McGraw, Pittsburg, Pittsburg Auto Club.
 John C. Boland, Syracuse, N. Y., Supervisor.
 R. Hallowell, Hagaman, N. Y., Commissioner.
 Geo. Nold, Wayland, N. Y., Supervisor.
 P. J. Bricks, Port May, N. Y., Justice Peace.
 W. W. Scott, Silver Springs.
 William W. Ford, White Plains, N. Y.
 John Gick, Saratoga Springs, N. Y., Supervisor.
 E. H. White, Rochester.
 F. A. Boyle, New York City, New York Times.
 John R. Taylor, Rochester, Rochester Auto Club.

GOOD ROADS AND LEGISLATIVE CONVENTION

G. L. Stewart, Rochester, Rochester Auto Club.
Guy Shields, Chicago, Press.
W. T. Healey, Philadelphia, Good Roads Company.
H. G. McKelvey, Rochester.
J. F. Beam, Black Creek, Ont.
N. O. Sheppard, Syracuse, Supervisor.
W. W. Estey, Syracuse, Supervisor.
P. H. Kelly, Syracuse, Supervisor.
E. F. Hodge, Syracuse, Supervisor.
J. C. Boland, Syracuse, Supervisor.
F. E. Bogardus, Syracuse, Superintendent of Highways.
W. F. Mors, North Tarrytown, N. Y.
W. Christy, Wilmington, Del.
A. J. Taylor, Wilmington, Del.
F. W. Pierson, Wilmington, Del.
Wm. H. Chamberlain, Kanona, N. Y.
S. B. Belden, Pittsburg, Pittsburg Auto Club.
E. S. George, Detroit, Auto Club of Detroit.
A. Smallwood, Elyria, Ohio.
Chas. E. McHenry, Buffalo.
Joseph F. Wilford, Elba, N. Y.
Chas. A. Powers, Lancaster, N. Y.
George W. Brown, Oakfield, N. Y., Commissioner.
Freeman Edgerton, Elba, N. Y., Supervisor.
Chas. W. Driggs, Elba, N. Y., Commissioner.
W. B. Davis, Oakfield, N. Y., Supervisor.
Geo. H. Croft, Oakfield, N. Y.
H. G. Saxton, Oakfield, N. Y., Town Clerk.
W. Arthur Goher, York, Pa.
Jas. A. Kelly, Newfane, N. Y., Supervisor.
W. H. Tompkins, Newfane, N. Y., Commissioner.
J. Allen McCollum, Newfane, N. Y., Supervisor.
H. R. Elliott, Wellsville, N. Y.
John Robinson, Hamilton, N. Y.
M. Worth Colwell, New York City, "Motor."
R. Robinson, Akron, N. Y.
Frank Bennett, New York City, "Automobile."
Joseph Dunfee, Syracuse.
W. E. Webster, Buffalo.
D. W. Lockesley, Montreal, Que., Auto Club of Canada.
E. H. Strong, Owego, N. Y.
W. F. Sayre, Owego, N. Y.
John W. Potter, Utica, N. Y., Supervisor.
Bernard Wrench, Whitestown, N. Y., Supervisor.
W. R. Pritchard, Trenton, N. J., Supervisor.
R. R. Isaacs, Trenton, N. J., Highway Commissioner.
L. W. Griffiths, Trenton, N. J., Town Clerk.
E. D. Henrich, Boston, N. Y., Supervisor.
F. F. Holmwood, Orchard Park, N. Y., Supervisor.
Mrs. C. M. Guild, Rupert, Vt., Auto Club of Vermont.
H. S. Ransom, Ransomville, N. Y., Chairman Board of Supervisors.
William Jaeger, Buffalo, Supervisor.
John Hoole, New York City, Automobile Topics.
Levi Smith, Warren, Pa.

H. W. Othout, Rochester, Auto Club of Rochester.

V. L. Kroft, Rochester, Auto Club of Rochester.

Josiah Howard, Emporium, Pa.

Frank P. Jobes, Honeoye Falls, N. Y., Auto Club of Rochester.

C. W. Barrick, M. D., Allegany, N. Y.

RESOLUTIONS

The following resolutions, proposed by the Committee on Resolutions, were unanimously adopted by the Convention :

1. RESOLVED, That, in view of the signal success attending the convention held this year, a national convention of similar character be held annually, and that the national committee having in charge such convention for the year 1909 be as follows :

Robert P. Hooper, Philadelphia, Chairman A. A. A. Good Roads Board.

Chairman Ex-Governor Nahum J. Bachelder, Concord, N. H., Master of the National Grange.

James H. MacDonald, Hartford, Conn., President of the American Road Makers' Association.

Charles Thaddeus Terry, New York, Chairman A. A. A. Legislative Board.

S. D. Waldon, Detroit, Mich., representing National Association of Automobile Manufacturers.

Frank B. Hower, Buffalo, N. Y., Chairman A. A. A. Touring Board.

Alfred Reeves, New York, representing the American Motor Car Manufacturers Association.

William H. Hotchkiss, Buffalo, N. Y., President American Automobile Association, ex-officio.

Frederick H. Elliott, New York, Secretary American Automobile Association, ex-officio.

2. BE IT RESOLVED, By the representatives of the National Grange, the American Road Makers' Association, and the American Automobile Association, in national convention assembled, that each of these bodies will, in the ensuing sessions of State legislatures and of the Congress of the United States, devote its best efforts to and enlist the coöperation of all its constituent and affiliated bodies in the movement for good roads, through federal aid, or through both federal and state aid, and that the two last named organizations, the National Grange coöperating as it may be authorized at its convention to be held in Washington, D. C., in November, 1908, shall put forth their, and each of their, best efforts to secure the enactment of the Uniform State Motor Vehicle Law prepared by the American Automobile Association, and the enactment of the Federal Automobile Registration law, and, to that end, that each of these three national associations, so far as they may be authorized by their respective organizations, instruct its state bodies and its state representatives to give continuous and persistent aid in their respective localities to the measures in question.

3. RESOLVED, That the President of the American Automobile Association be, and he hereby is, authorized to appoint an executive committee of twenty-one members, including the nine members composing the committee upon the national convention of 1909, the duty of which executive committee shall be to see to it that the plans and purposes determined by the National Convention of 1908 shall be carried out to their consummation, and that the measures approved by the convention be pressed to passage and enacted into law in the various States of the Union and by Congress.

4. BE IT RESOLVED, That such executive committee shall have, and is hereby given, power to add to its membership, by a two-thirds vote of its members, the representatives of such other body or bodies as may add strength to the movement for good roads and fair legislation, such additional members not to exceed five in number.

5. RESOLVED, That it is the unanimous sentiment of the representatives of the National Grange, the American Road Makers' Association, and the American Automobile Association, in national convention assembled, that the Currier Good Roads bill, now pending in Congress, should be enacted into law.

6. BE IT RESOLVED, That it is the unanimous sentiment of the representatives of the National Grange, the American Road Makers' Association, and the American Automobile Association, in national convention assembled, that, not only is it right and proper, but it is also most expedient and of vital importance to the interests represented, that all users of the highways, and, particularly, automobilists, should be extremely careful and always keen and alert to observe strictly all the courtesies and decencies of highway travel, and should make it their constant aim to persuade, or, if necessary, to compel those of their brother automobilists who are inclined to abuse their privileges upon the highways to conform to those rules of fair and reasonable conduct which already govern the vast majority of the users of motor cars.

7. BE IT RESOLVED, That the executive committee be, and it hereby is, authorized to take under advisement the desirability of the appointment by the President of the American Automobile Association of a committee to consider the best method of construction of brick, macadam, asphalt, and other kinds of roads, enlisting, to that end, if desirable, such aid and information as they may be able to secure from engineers and those technically familiar with the subject, and to report its conclusions at the next annual convention.

8. RESOLVED, That the addresses delivered at the various sessions of this National Good Roads and Legislative Convention of 1908, together with these resolutions, be printed in pamphlet form and sent to the members of the three associations represented at the convention and to each of its guests in attendance thereat, at the discretion of the Executive Committee.

(Signed)

CHARLES THADDEUS TERRY, *Chairman*,
JOS. W. HUNTER,
N. J. BACHELDER,
ROY F. BRITTON,
STEPHEN RYAN,
C. GORDON NEFF,
GEORGE C. DIEHL,
F. N. GODFREY,
PAUL C. WOLFF,
F. A. DERTHICK,
A. W. CAMPBELL.

PROCEEDINGS

OF THE

FIRST ANNUAL GOOD ROADS AND LEGISLATIVE CONVENTION

CALLED BY THE

AMERICAN AUTOMOBILE ASSOCIATION

AT

CONCERT HALL, TECK THEATER BUILDING
BUFFALO, N. Y.

ON JULY 7 AND 8, 1908

PROCEEDINGS OF TUESDAY, JULY 7, 1908

Convention called to order by President William H. Hotchkiss at 10.10 A. M.

PRESIDENT HOTCHKISS: — The programme is long, hence it is essential that we begin at once. The printed programme itself will be distributed in a few minutes. The printer has been slightly delayed in getting it out, but it is on the way upstreet now.

On behalf of the American Automobile Association and those bodies which are coöperating with it to-day and to-morrow — I mean the National Grange with its million members and the American Road Makers Association — permit me to extend to you a most cordial welcome.

The Mayor will shortly welcome you to the city, but before his welcome I wish to read to you something that has been sent us by a man whom every American respects, not only because of his high office, but because of his magnificent personality. The President of the United States (applause), when asked to send something which could express his views to this Convention, forwarded a speech which he made at St. Louis two or three years ago, and asked that excerpts be made from that speech as expressing those views. Those excerpts are the following:

“When we wish to use descriptive terms fit to characterize great empires and the men who made those empires great invariably one of the terms used is to signify that that empire built good roads. When we speak of Romans, we speak of them as rulers, as conquerors, as administrators, as road builders. There are empires that rose over night and fell over night, empires whose influence was absolutely evanescent, which have passed away without leaving a trace of their former existence; but, wherever the Roman established his rule, the traces of that rule remain deep to-day, stamped on the language and customs of the people, or stamped in tangible form upon the soil itself. And so, passing through Britain fifteen centuries and over after the dominion of Rome passed away, the Roman roads as features still remain; going through Italy, where power after power has risen, and flourished, and vanished since the day when the temporal dominion of the Roman emperors transferred its seat from Rome to Byzantium, and all the people of the Middle Ages that have ruled that country; it is the imperishable Roman roads that reappear.

“The faculty, the art, the habit of road building marks in a nation those solid, stable qualities which tell for permanent greatness. Merely from these standpoints of historic analogy, we should have a right to ask that this people which has tamed a continent, which

has built up a country, with a continent for its base, which boasts itself, with truth, as the mightiest republic that the world has ever seen, which I firmly believe will, in the century now opening, rise to a position of headship and leadership such as no other nation has ever yet attained, merely from historic analogy, I say, we should have a right to demand that such a nation build good roads. Much more have we the right to demand it from the practical standpoint. The great difference between the semi-barbarism of the Middle Ages and the civilization which succeeded, was the difference between poor and good means of communication. And we to whom space is less of an obstacle than ever it was in the history of any other nation, we who have planned a continent, who have thrust our border westward in the course of a century and a quarter until it has gone from the Atlantic to the Alleghenies, from the Alleghenies down into the valley of the Mississippi, across the great plains, over the Rockies, to where the Golden Gate lets through the long-heaving waters of the Pacific, and, finally, to Alaska, to the Arctic regions, to the tropic islands of the sea, we who take so little account of mere space must see to it that the best means of nullifying the existence of space are at our command." (Applause.)

I am sure I speak the sentiments of every member of the Convention, whether present in this room or now in this city, when I say that we all echo these sentiments of the leading American of the day, the President of the United States. (Applause.)

And now, gentlemen, it becomes my pleasant duty to introduce to you a man who is famous in his own country and famous abroad, the Mayor of Buffalo, Honorable James N. Adam.

MAYOR ADAM: — *Mr. President and Members of the Automobility.* I have not built my remarks, and I am glad I haven't, on presidential lines, because it has been done so much better than I could have done. But as the modest Mayor of a municipality, such as I happen to be, if I could I would honk a welcome to you, for nothing makes a man feel so much at home as to hear his own language spoken.

Buffalo gives you a most hearty welcome. I doubt if there is another city in the United States where you should receive a heartier, and we feel honored that you decided to hold your first convention here. Buffalo is the Bubbler's paradise, our streets are well-nigh paved with gold — judging from the cost. There are more automobiles here *per capita* than in any other city in the world. We have two great automobile plants, and a host of lesser luminaries. Here is the home of the Pierce Great Arrow, as fine and splendid a car as ever sped a road, with a list of triumphs unsurpassed, and here is the home of the Thomas whose gallant record in the contest around the world challenges the admiration of all other countries, and bids us serenely await the day when Schuster will first arrive in Paris. (Applause.)

The object of your gathering and the subject of your deliberations are good roads.

Roads are essential in the material advancement of a nation and necessary to the development of the natural resources of a country. Good roads are necessary for State and interstate traffic. They make travel a comfort and a pleasure and permit us to view with indifference the confines of a railroad train. They will place us beyond the realm of railroad domination. The headlight gives way to the prestolite.

A conservative railroad man recently remarked that automobiles had not come to stay. He was quite right — they have come to go! And the way some of them go makes us feel that the police courts are the only kind of brakes that can keep a clutch on them.

Speed is a superfluity. Good roads are a necessity. Success in obtaining good roads must rest upon the character of the road to success. I mean the roads of fairness, justice, perseverance, and coöperation. These are the highways that lead to ideal good roads, not for the automobility alone, not for the man with the six-sixty, but also for the man with the handcart. The users of roads must be kindly considerate one to another. It should not be a capital crime for a chicken to desire to cross a road. Who knows but deliberate cows are sent especially to test alike our patience and our emergency brake. Gentlemen, you will get the fullest measure of your rights by observing in the fullest measure the rights of others. Let us have coöperation, let the cities work with the towns, the automobilist

with the farmer, the cyclist with the pedestrian, all working together for good roads. Then, instead of pleasure being a bubble, a bubble will be a pleasure! That reminds me of the verses:

How many sick ones
 Wish they were healthy:
 How many poor men
 Wish they were wealthy:
 How many ugly ones
 Wish they were pretty:
 How many stupid ones
 Wish they were witty:
 How many bachelors
 Wish they were married:
 How many benedicts
 Wish they had tarried.
 Single or double
 Life's full of trouble:
 Riches or stubble,
 Pleasure's a bubble!

Let us play fair in our pleasure.

It is not more than a week since I got my first number from the State department. It was 57,428. Since then the postal department of the United States has been kept busy delivering circulars and catalogues of accessories. One circular read something like this: "We shall not print and distribute a catalogue this year. It cost $7\frac{1}{2}$ per cent. of our sales to do it last year, but if you see anything you want in any other firm's catalogue we will supply it at the same price and allow you $7\frac{1}{2}$ per cent. discount. We have all the catalogues on file." If they got an order on these terms I suppose they would then write to the man who had printed the catalogue and say, "We are in the trade and expect a discount of 15 per cent. from your prices." So the man who got up the catalogue was out $22\frac{1}{2}$ per cent. That sort of business I call mean business. It is not fair play.

Gentlemen, Buffalo rejoices in your presence. You are in a beautiful city. Hospitality awaits you on every side. We hope you will enjoy your visit and will leave us with a kindly remembrance. (Applause.)

FRANK B. HOWER, of Buffalo:—Mr. President, his Honor the Mayor, who has long been a lover of horses, has at last given way and now is the owner of a beautiful high-power automobile, and as President of the Automobile Club of Buffalo, I will ask you to put a motion that he be made a life member of the Automobile Club of Buffalo, and, in consequence, a member of the State organization and a member of the American Automobile Association.

PRESIDENT HOTCHKISS:—You have heard the motion, gentlemen.

(Motion seconded.)

PRESIDENT HOTCHKISS:—As President of the American Automobile Association, I also join in the second.

(Motion put and carried unanimously.)

PRESIDENT HOTCHKISS:—The motion prevails. Mayor Adam, you are an honorary member of all the organizations.

MAYOR ADAM:—I thank you, I hope that I will long be a member, especially as I hear that it is a life membership.

PRESIDENT HOTCHKISS:—It is appropriate, gentlemen, as a first step in a convention of this kind, that we have some rules which will govern our deliberations. At a meeting of the National Committee in charge, held last evening, certain suggestions were made, and I recognize Mr. Terry, of New York, to report those suggestions.

CHARLES THADDEUS TERRY, of New York:—On behalf of the National Committee, I offer the following resolutions:

"RESOLVED, That the following shall be the rules of this convention :

"1. That, in the open sessions, a delegate or guest desiring to address the Convention shall stand in his place, give his name, the city and State from which he comes, and the organization, if any, which he represents.

"2. That all discussions in the open sessions be under the two-minute rule, and that a person cannot speak more than once during any such session, unless to answer a question addressed to him or after obtaining unanimous consent.

"3. That all discussions and remarks in the open sessions be germane to the subjects discussed in the papers presented thereat.

"4. That the Chair appoint a committee of fifteen on resolutions, and that all resolutions be presented in writing and referred to such committee, without being read and without debate.

"5. That, except as herein specified, the Convention be governed by Robert's Rules of Order."

I move their adoption.

(Motion seconded.)

PRESIDENT HOTCHKISS: — Are there any remarks upon that motion?

(Motion put and carried unanimously.)

PRESIDENT HOTCHKISS: — The motion prevails, and the rules read by Mr. Terry are the rules of this Convention. Pursuant to those rules the Chair will name the following as the Committee on Resolutions:

Charles Thaddeus Terry, of New York;

Joseph W. Hunter, of Pennsylvania;

N. J. Bachelder, of New Hampshire;

Roy F. Britton, of Missouri;

Stephen Ryan, of New York;

C. Gordon Neff, of Ohio;

James T. Drought, of Wisconsin;

A. W. Campbell, of the Province of Ontario;

F. A. Derthick, of Ohio;

W. W. Crosby, of Maryland;

J. P. Coghlin, of Massachusetts;

F. N. Godfrey, of New York;

Aaron Jones, of Indiana;

George C. Diehl, of New York; and

Paul C. Wolff, of Pennsylvania.

The gentlemen who are present and whose names have been read will take notice of a meeting at seven o'clock to-night. It is also earnestly urged by the National Committee in charge that any member of the Convention who has a subject which he thinks should be considered by the Committee on Resolutions, frame that subject into words and present them to Chairman Terry between now and seven o'clock to-night.

It is now my pleasant duty, gentlemen, to call to the platform, as the presiding officer of this session, which is the Legislative Session of this Convention, Chairman Charles Thaddeus Terry, of New York, of the Legislative Board of the American Automobile Association. Will Mr. Terry take the Chair?

LEGISLATIVE SESSION

(Mr. Terry in the chair.)

OPENING ADDRESS

By CHARLES THADDEUS TERRY, of New York

MR. PRESIDENT, GUESTS OF THE ASSOCIATION AND FELLOW-MEMBERS:—

Our heartiest congratulations are due to the officers of the American Automobile Association, to its committees in charge of the Convention, and to the individual members of the organization, upon the wisdom and foresight which conceived, and the intelligent industry and untiring zeal which have brought to so successful a consummation, the ideas embodied in this national convention.

This is an epoch-making occasion. It is the most signal and significant event which has happened in the history of automobiling in this country. Its influence has already been widely felt, and will be still more widely felt, to the lasting advantage of the industry and the sport in the days to come. The deepest gratitude should be entertained by the users of motor vehicles in every State in this country to the American Automobile Association which has made such a convention as this possible and successful, and most of all is gratitude due, for his indomitable energy and unremitting labor, to that man who has spent his days and nights, in season and out of season, for the upbuilding of this organization, in self-denying devotion to the interests of automobilists—our president, William H. Hotchkiss.

If this convention does not result in a vast improvement in the roads over which and the laws under which the automobilists may travel, it will be because the individual automobilists do not avail themselves of the magnificent opportunity which this occasion affords for stimulus, for knowledge of actual conditions, for education, looking to the betterment of those conditions and for an acquisition of ideas which may be put into operation and worked out in concrete form in the several particular localities where our individual members may happen to reside. The thoughts advanced and the plans evolved at this assemblage must be put into immediate operation and application, else the value of this occasion will be utterly lost. A thought not converted into action is dead. It lies with you to see to it that the force set in motion on these two days shall be unending in its influence for good to the automobilist.

Good roads and fair laws! But the more important of these is fair laws. Without fair laws, good roads are of no use to the automobilist.

You might have throughout the country a system of roads surpassing anything yet devised by man, and, nevertheless, if stone walls were built across them every twenty-five miles, they would be useless as means of intercommunication. Barriers almost as effective as such stone walls have been erected at the confines and within the confines of various States throughout the Union by the enactment of laws which make an attempted use of the highways of the country so difficult and expensive as to amount practically to a prohibition.

There are many natural and inevitable obstructions to the automobiles in the use of the highway. There are animals of every nature and description which wander about on the roads and make their passage dangerous, but, of all the creatures which infest the paths of travel the most obnoxious and the most unreasonable by far, to the automobilist, is man, particularly when he is brought together in combination with other men in bodies called legislatures. How much has been done by law-making bodies to destroy the natural privileges of users of highways is realized by those who have attempted to use the motor car in interstate travel, but even to them the extent of the attempt, on the part of legislators, to erect this natural right to use the highways into an expensive privilege is not thoroughly understood, nor would it be generally believed, unless the detailed facts were presented to them in succinct form.

As a premise for the deliberations of this session, I present in brief outline the situation, as regards motor-vehicle legislation, as it is at present.

PRESENT STATUS OF MOTOR-VEHICLE LAWS

The condition in which we find the motor-vehicle laws of the various States of the nation at this time is both intolerable and ridiculous. Intolerable, because it retards the progress and development of the automobile and greatly lessens its usefulness. Ridiculous, because it is hard to conceive how, within the confines of one nation so many legislative bodies, supposedly made up of the leading men of the commonwealths, could enact provisions of law on the same subject so divergent and contradictory, and at the same time absolutely without apparent purpose, except to harass and restrict a certain class of citizens.

In thirty-one States of the nation, registration of motor vehicles is required, nearly every requirement being different from the other, the fees ranging from 25 cents to an annual fee of \$25, and the authorities being in most instances the Secretary of State, and in some the State Boiler Inspector.

In six States, local authorities may each require registration and licenses in their particular locality.

In ten States, a license to operate, in addition to registration, is required, with annual fees ranging from \$1 to \$3.

In eight States, the registration and license laws of the other States are entirely disregarded, and non-residents passing through are again required to register their vehicles, pass an examination as to the competence to operate, and procure a license.

In four States, non-residents, exempt from the registration provisions of State laws, are not exempt from the registration and license requirements, enacted by local authorities.

In seven States, non-residents are exempt for periods of time, ranging from twenty-four hours to sixty days.

The most striking illustration of the ridiculous and intolerable State enactments affecting non-resident automobilists is to be found in the Eastern States.

An automobilist, desiring to go from New York to Washington in a 30-horse power vehicle, in addition to registering and paying the fees in the State of his residence, must register his vehicle and procure a license to operate in the various States through which he must pass.

In the State of New Jersey, he must register his vehicle and pay a fee of \$10, give to the Secretary of State power of attorney to accept service of process for him, pass an examination, procure a license to operate, and pay an additional fee of \$4.

In Pennsylvania he must again register his vehicle and pay a fee of \$3, pass an examination, and procure a license to operate.

In Maryland, the same process must be repeated and a fee of \$3 paid.

On arriving in the District of Columbia, he must register his name and address with the Automobile Board within twenty-four hours.

Such a state of affairs needs no characterization.

In matters of speed and rules of the road, the automobilist is not only harassed by divergent and contradictory State laws, but in most States he is subject to restrictions imposed by local authorities of every political and governmental division of each particular State. The speed limitations range from four to twenty miles an hour, changing according to the locality, and the automobilist, without the slightest negligence or danger to other users of the highway, may violate the speed laws six or eight times in a run of sixty miles.

The speeds allowed at intersections, crossings, bridges, and curves, range from four to six miles an hour; in cities and towns and built-up sections eight to ten miles an hour.

In seventeen States, as in New York, the maximum of speed allowed is twenty miles an hour, with limitations, ten miles in closely built-up sections of a city or village, fifteen miles in other portions thereof, and four miles on curves, bridges, and steep descents, varying in different States.

In six States, twenty-four miles an hour is the maximum.

In six States, fifteen miles an hour.

In one State, twelve miles an hour.

In one State, eighteen miles an hour.

In one State, eight miles an hour.

In one State, a reasonable and proper rate.

There are only two States at the present time which have reasonable or sensible speed limitation provisions in their motor-vehicle laws, and they are the States of Connecticut and Florida, which require that the rate of speed should be reasonable and proper, the effect of the Connecticut provision being partially destroyed by the maximum limitation of twenty-five miles. The other States have enactments which cannot be enforced or which make comfortable motor-vehicle travel quite impossible.

It will be seen that if the motor vehicle is to take its proper place as a means of general travel and interstate communication, this intolerable condition must be changed and some basis of uniformity in legislation arrived at. An automobile is a power and force extending national development and automobilists should not suffer its usefulness to be restricted by laws enacted, not for the protection of the people of the State, but, as in New Jersey, for the sole purpose of manufacturing an additional source of revenue. This condition will last only so long as the automobilists themselves acquiesce.

I have said that of all the creatures which infest the highways and make the use of automobiles disagreeable or inconvenient or next to impossible, men are the worst. Cows and horses and pigs and chickens are bad enough, but men are worse. A cow can only be slow and stupid,—like a cow; a pig can only be a menace by making you think he is going to run into your way when he never does,—like a pig; a horse can only become needlessly frenzied with fear and break his harness and injure everyone in his immediate neighborhood,—just like a horse; a hen can only be the rattle-brained thing she is, and insist on showing how dangerous a motor vehicle is, by throwing herself in front of it and getting herself killed,—like a hen; but, unhappily, men in some instances are all of these creatures together;—sometimes they are in automobiles; sometimes they are walking or driving horses on the highway; and—sometimes they are sitting in legislatures.

PROVINCIALISM

The present motor-vehicle laws are the last, best demonstration of the provincialism of several of our States. They are the masterpieces of men of so narrow an outlook that they cannot see that anyone lives behind the mountains which confine their hamlet, their county, or their own commonwealth. Those legislatures which enact motor-vehicle laws destructive of the rights of the residents of other States to engage in interstate travel hide behind the high-sounding phrase, "States' rights," which, it will be observed, is utterly meaningless in this connection. Such laws spring not at all from an observation of States' rights, but entirely from a narrow provincialism which refuses to consider the rights of the citizens of sister States.

And let us not be deceived by the cry of these legislators that the hostile automobile legislation which they enact is demanded by that much-abused class called "farmers." There is not a word of truth in it. No one who has given thought to the situation nor had experience at legislative hearings dealing with proposed automobile legislation, has found the "farmer" anything but open-minded, reasonable, fair and ready to be instructed as to the facts and persuaded as to the natural conclusions to be drawn from them. No, the trouble lies not with the farmers. It lies rather with the cheap politician, the demagogue, who is ever ready to make capital out of the nearest available material, and who, whether he asserts it in so many words or not, acts upon the assumption that he is the common people, the sovereign "who controls the roads, the deputies, and the future of political parties." He it is, and not the farmer, who instigates the enactment of those stupid, senseless laws. Of course, one does find from time to time in every community, whether it is the city or the country, individuals who, because of some real or fancied indignity at the hands of an automobilist, are ready to curse progress and science and everything

and everybody, and to rush to his senator or assemblyman and demand that the automobile be driven from the highways. But such incidents have become, in this day, not the rule but the exception. Whatever may have been true in former days, it is no longer true that bad automobile laws come by any popular demand. They are born of the imaginings of some one or more legislators often for a political purpose.

NEW JERSEY

Take, for example, New Jersey. Its automobile policy is as narrow as the geographical confines of the State itself compared with other States. It has the most unreasonable and unfair automobile law of any State in the Union, and it came, and exists, not because of any desire on the part of the people of the State, but as a necessary adjunct to the political aspirations of a single individual in the legislature.

SOME BAD LAWS DUE TO MISCONCEPTION

It is amazing how far behind the times many legislators have fallen. Their failure in many instances to enact reasonable, sane, and effective automobile laws, has been due to a misconception of the present status of the motor car under modern conditions. Their error goes to the root of the matter. They have utterly failed to observe that the automobile is no longer a mere instrument of sport, which may be carelessly treated as of no particular moment; which may be legislated off the highways if its use proves disagreeable to some narrow-minded people. They have not noted the tremendous extent of its use, nor the varied purposes which it serves — in short, they have not opened their eyes to the fact that it has become an important factor in the commerce of our country, and that in ten years it will become *the most* important vehicle of trade and transportation. It is no longer a mere luxury — it is a necessity. It performs all the functions of the horse and vastly more. In important respects, it will be superior to the railroad as a means of interstate communication and interstate trade, because, while the railroad is confined to the narrow limits of two steel rails and straight lines of travel and infrequent stopping places, the motor car reaches to the most remote corner, is confined to no particular line of travel, and can stop where and when its driver pleases.

As the advent of the railroad train absolved the traveler from dependence on the post chaise and the stage coach, so the development of the motor vehicle will free him from the discomforts and inconveniences of the time-tabled railroad.

It is thus seen how unwise, how short-sighted, and how puerile it is for legislators to suppose that they may, at will, restrict and limit and needlessly embarrass the wide-spreading use of this vehicle. It is irresistible progress against which they are pitting their puny strength. They are securing for themselves only ignominy and ultimate defeat.

The use of motor cars has only just begun. The science of their manufacture has not yet reached its maturity. The numbers of them in use will be multiplied year by year, until the horse will disappear — except as it is used for sport or pleasure — and be as rare a sight upon our highways as was the automobile ten years ago.

Wake up, legislators! The automobile has gone by you while you were wondering when it would come. You cannot ignore it — neither can you deny it the rights which its importance demands.

APPEALS TO PASSION AND PREJUDICE NO LONGER SUCCESSFUL

There was a time, not so many years ago, when the misdeeds and the recklessness of the few among automobilists were made the basis for the hue and cry against all of the class, a cry which found its echo in hostile, hateful, vengeful automobile legislation in many States; but that time is past, and those statutes have for the most part been wiped off the statute books. Nowadays, anyone who attempted to make such an appeal to passion and prejudice would be calmly answered by the facts. Experience has shown that the great majority of automobilists are law-abiding, careful users of the highways, considerate of the rights of others, and that the real reason why there still exist a few who willfully disregard the law and the decencies of the highway is, not because the highway

laws were not right, but because the authorities were slothful in their enforcement of them. The remedy is not in other or different laws, but in the enforcement of the plain, simple, common highway rules.

UN-AMERICAN

To enact laws which impair or destroy the rights of the many, in order to reach and punish the few, is distinctly un-American. It is directly contrary to the basic principle of our jurisprudence, which holds that it is better that a thousand guilty persons should escape than that one innocent should suffer. Such States as the State of New Jersey have reversed this doctrine and have framed their law upon the dogma that, better a thousand innocent persons shall suffer than that one guilty should escape. The bare statement of this policy, which has been adopted in that State, carries its own sufficient condemnation.

HIGHWAYS ARE NATIONAL

For all purposes of interstate travel highways belong to the citizens of the United States, with the absolute right to travel thereon and to make ingress and egress from the various States, unhampered by the narrow restrictions sought to be imposed by provincial enactment. The various and varying motor-vehicle laws of the forty-five different States of the Union, oftentimes characterized by unreasonable, harsh, unnecessary and galling limitations, would, if they were persisted in, put an end to the use of the automobile.

It would seem that, if we are really a nation, such a state of things would be impossible, as it is intolerable. The remedy lies in either one or both of two directions: Either, first, the enactment of a simple uniform, motor-vehicle law in all of the States; or, second, the enactment of a Federal statute which will be controlling in all parts of the country. The remedy will be administered; the reform it is coming — indeed, it has, to a large extent, already come. Several of the States have at the last or previous sessions of their legislatures substantially enacted the uniform motor vehicle law proposed by this Association. Look at the law of Connecticut, at the law of Rhode Island, and at the law of Ohio.

THE FEDERAL LAW

The Federal Automobile Registration Bill, drafted and presented to Congress by this Association, will become the law of the land. There is not the slightest question of it. It is recognized to be right and expedient by everybody, and no one, who has given the subject adequate study, and whose mind works clearly, denies the constitutionality of the measure. If a man may walk or drive, or sail in his steam yacht, through various States without being retarded and restricted at the boundary line of each State by registration and license laws, why may he not likewise travel through the various States in a motor vehicle? If it be said in answer that the residents of the State require his identification for their own safety, the answer is that the registration of the motor vehicle under this Federal Law will suffice, as it has always done in the case of steam and sailing vessels while using the water-ways of the Nation. Under this bill, the only restrictions upon the various States is that they shall not retard and impede motor vehicles engaged in interstate travel by useless and unnecessary registration and license requirements.

CONCLUSION

Gentlemen, the worst of the battle is over. The common sense of our people is again asserting itself, even to the confusion of some legislators who do not wish to be convinced. The Uniform State Motor-Vehicle Law is on the way and at no very distant date will be an accomplished fact. The Federal Automobile Registration Law, when it has been set upon the statute books, as it inevitably will be, will prove to automobilists the boon which it was intended to be, and will answer the criticisms of the last doubting obstructionist. In short, a better, brighter day is dawning in automobile legislation in all the world — and New Jersey. (Long applause.)

CHAIRMAN TERRY: — Now, gentlemen, the balance of the session will be given over to four main addresses upon the subjects of "Federal Automobile Legislation," "The Constitutionality of Federal Automobile Registration," "Unreasonable State Legislation," and "Uniform State Automobile Legislation." At the end of each of these papers the meeting will be thrown open for a limited discussion of any of the points which are involved in the paper which has just been read.

To-night, as you have already been informed, the Committee on Resolutions meets, and if the sessions are to accomplish anything to the concrete advantage of automobilists, it must be by way of the resolutions urging to action after the days of this convention are over; and, therefore, I suggest that in the course of the day whatever ideas occur to any one as desirable of being carried out hereafter should be put in the form of a resolution and handed up to the presiding officer of this session for consideration at the session of the Committee on Resolutions to-night.

It gives me particularly great pleasure to be able to give you this morning a man who has been behind the Federal Automobile Registration Bill drafted by this Association and presented to Congress, and who combines in himself the rarest of qualities. He is a convert in the matter of Automobile legislation. I suppose there never was a more rabid anti-automobilist as regards automobile legislation than the man who I am about to present to you; but he is a convert — and I suppose that a man who has seen the error of his ways and been reformed is the safest man to follow — he has looked at both sides of it, and looked hard. The other quality which he presents, the other characteristic, is, that he is a farmer. The combination of convert and farmer, I take, would be hard to beat. It gives me the greatest pleasure to present to you the Hon. William W. Cocks, representative in Congress from the State of New York, and the introducer of the Federal Automobile Registration Bill.

FEDERAL AUTOMOBILE LEGISLATION

By the Hon. WILLIAM W. COCKS, of New York

MR. CHAIRMAN AND GENTLEMEN OF THE CONVENTION: —

I did not expect to occupy quite such a conspicuous place in the program as I see has been assigned to me. It seems from the introduction of the Chairman that I was expected to prepare a paper. Unfortunately for myself when I prepare a paper I am so discouraged over its contents that I am very apt to tear it up. Therefore, I will inflict a few remarks upon you without having prepared a paper, partially to explain my position here, partially to tell you something of automobile legislation, or attempted automobile legislation, at Washington, and a few suggestions that to my mind would be helpful to you — suggestions that you may carry out at home, and suggestions that you may carry out whether you be a farmer, good-roads' man, or whether you steer an automobile, or be the owner of horses.

Mr. Terry refers to me as a convert. Well, perhaps I am not quite as much of a convert as he thinks. My position, of course, has

been regarded by a great many as that of a rabid anti-automobilist. Well, I live in a community that was first afflicted with the automobile, and the first automobiles that came to our neighborhood were the high-power French machines, driven by an inconsiderate foreigner, or a sporting American. Now, we did not seek to restrict the uses of the automobile because we were opposed to the automobile, because most of my neighborhood recognized at first the great advantage of the automobile; recognized that it was here to stay; that it was not a mere plaything; that just as soon as it was put upon the market at a fair price—I say "a fair price"—at a price that most of us farmers or the ordinary business man could purchase it at—it would be universally used. We had no objection to the automobile, but we did have objection to its reckless use; and I am very free to admit that many of our attempts at automobile legislation were necessarily crude, as all legislation is in the beginning. The first bill we introduced for restriction

in this State simply provided for a speed limit — was, of course, inadequate. We simply provided a penalty for excessive speeding, and that was all. I well remember the first bill that was introduced provided for a fine. The people behind that bill said to us members of the Legislature: "The men who use these automobiles are gentlemen, and if you say such and such is the law, they will observe it." Well, while I recognize that a great many that use the automobile are gentlemen, unfortunately, there are a great many more that, if they were gentlemen, were the best disguised that I have ever seen. I realize that while they had the finest manners in the world in the drawing-room, at the table and, perhaps, on the platform and in the ball-room, when they got upon the road they forgot them; they hadn't as much manners as the average Long Island farmer.

Now, there are certain rules on the road that are as old as our civilization, and one of them is that the loaded vehicle has the right of way. We have conceded it to him from the beginning, and we will concede it so long as men use horses. The man with the heavy load is bound to receive consideration upon the highway, partly on account of the weight and partly because he is doing something more helpful to civilization than we are; anyway, that is a thing we cannot change.

I want to call special attention to the Mayor's address. In that lies the secret of this animosity to the automobile. That is the question of fear. Now, I have suffered very materially myself, because I am a user of horses and I am a man that continually changes horses. Furthermore, thousands of our mothers and sisters and wives have been taken from the highway because they had to drive their own horse and they were afraid of it, they were afraid of the excessive speeding and the reckless use of the automobiles. That is why it made some of us feel that these automobilists must be restricted, if possible. Never for a moment have any of the best of us — those that were big enough to look beyond the confines of our own town or city — sought to unduly restrict interstate or intrastate commerce of automobiles, not for a minute. But you all know that thousands of times

when no accident has happened great distress has been occasioned to nervous people by abusing the highways with reckless driving. I am glad to say that, so far as I know, the automobile people have coöperated from the beginning in their efforts to stop it. I have been in close touch with the organizations in this State and the National Association from the beginning. I believe they have always found me reasonable. While I was determined, if possible, to stop the reckless use, I did not want to put anything in the way of the decent and proper use of the automobile, as I recognize its great advantages to us all.

I have recited these things because I looked upon it from a little different point of view from some of them; from those of you who, before the days of the motor vehicle, were not accustomed to use the highway frequently. I have been in close touch with those who have practically been denied the use by fear. We have had a great many distressing accidents in our particular part of the country due to excessive speed.

I want to give you a little illustration of what I call bad manners on a highway. I was in company with some friends not long ago and we were covering a certain route. We had the whole forenoon to ourselves; we took the twenty-mile route and we made the twenty miles in an hour. I wanted to see the district, I wanted to see what kind of a country the road went through; but, no, we had to go just about as fast as we possibly could. We came to a position like this: A heavy-laden vehicle going the same way and two ladies in a buggy going the other way. They were reasonably close together, but there was a little gap. The driver of our automobile pushed that machine between them; the ladies' horse was somewhat afraid and came very near going into the ditch, and they were very much frightened. In my judgment that was the meanest kind of a trick for a man to do, and he hadn't any manners who did it. Just before we got back, one of the boys sitting on the front seat wanted to light a cigarette, and he brought that machine down as slow as it possibly could go in order to light that cigarette. That was the hurry we were in. (Laughter.)

This is but one incident, but they seem to occur quite often in my country. This thing that you call prejudice is not altogether prejudice; that is, there is some ground for it, and I hope that it may be removed. I know the organizations and automobile associations are trying to remove it.

Now, with regard to the Federal Automobile Bill. It has lots of friends, but some say it is unconstitutional. If we can overcome the constitutional objection, I believe we will have no difficulty in getting the bill. Very few if any objections have been raised to the bill on any other ground, and that is rather a remarkable situation for any bill pending in Congress. Unfortunately for us, when Mr. Terry presented the case so very ably — and it was one of the most interesting hearings I ever attended before the Judiciary Committee of the House — we had practically no opposition. It would have been better had we had some astute lawyer there prepared to combat the position taken by Mr. Terry, for it was assumed that as nobody presented anything else that that was final. The committee was not necessarily hostile to the legislation, but the fact that troubled them was that we were interfering with State's rights, and the questions whether an automobile passing from State to State was interstate commerce or not.

Now, of course, most of you who have Congressmen at home will have influence more or less with legislation. It is up to you to do all you can to interest them in the bill. I have had any number of Congressmen come to me and ask how the bill was getting along and say they had so many good friends interested in its passage. The American Automobile Association has done a great deal of good work along this line. I hope they will continue.

You may be like the Mayor, having used horses up to a week ago and then purchased an auto. I am not an automobilist and may never ride in one of my own, but I do like to see fair play for all. This registering your car in every State is an unnecessary burden. Perhaps the idea of revenue is the main one; if it is, there may be some means of adjusting that. But I believe there was never any intention to restrict the use of

highways by non-residents. Of course, our ancestors when they drew the constitution did not foresee that we would have a high-power machine running over the highways; they did not even think of the railroad.

But what shall we do, do you ask? I am not in any better position than any of the members of this Association to tell you what to do. I think if we could get some particularly prominent constitutional lawyer to give his opinion that the bill was constitutional, the committee might report it out. My own opinion and your opinion, all of us laymen, would be, that if it was a reasonably fair proposition, the bill should be passed and its constitutionality left to the Supreme Court. But, of course, you know our judiciary committee of the House constitutes itself a court and doesn't like to report out a bill the constitutionality of which is seriously questioned. The outlook, gentlemen, is favorable for this legislation, but it will require a lot of work on our part before it can be consummated. I have done the very best I could in pushing it, made all the suggestions that I thought of at the time, and have been to see the various members that were particularly interested. Indeed, we have quite a number of the members of the Committee on Judiciary that are openly favorable to the bill and believe it constitutional. Now, then, those of you who may have members in your districts that are lawyers, it is well for you to use your influence on them. Still more, it may be that when it reaches the floor of the House opposition will develop from the State governments. Then it is well enough for us to be prepared with facts and figures, as to the amount of revenue or as to the injustice of demanding a revenue from machines passing from one State to the other.

Now, gentlemen, I believe I cannot add anything of particular interest. I know that the discussion in a case of this kind is worth more than the talk from the platform; we are apt to get more light. Therefore, I will conclude my remarks, hoping that the Convention will take the subject up. If there are any questions that anyone would like to ask or any suggestions to be offered, I would be glad to hear them. I am at your service. (Applause.)

CHAIRMAN TERRY:— It is a little mistake to assume that there was no opposition at the hearing of the Federal Bill before the Committee. There were some twelve of the best lawyers in the House of Representatives, members of that Committee, present, everyone of whom at the outset was in opposition; and as the Congressman has just said, the majority of those who were there at the hearing, and have studied the question since, have gotten over the alleged constitutional objection.

Now, on that point, gentlemen, we are honored by the presence of a man who has been on the firing line with reference to this Federal Automobile Legislation, who can look at the constitution with clear eyes, and who has that rarest and most uncommon of possessions, common sense. I introduce to you Mr. Neal Brown, the President of the Wisconsin State Automobile Association.

THE CONSTITUTIONALITY OF FEDERAL AUTOMOBILE REGISTRATION

By the Hon. NEAL BROWN, of Wisconsin

MR. PRESIDENT, CHAIRMAN, AND FELLOW DELEGATES:—

I might offer more than the conventional apologies for the address I shall make you because it has not seemed possible that I could add anything to your sum of knowledge respecting automobiles or automobile legislation. Had it not been for the kindly and urgent invitation to come here and the lure of so much good-fellowship that was in prospect, I should have taken to my trout stream and addressed my pointed remarks to the inhabitants thereof, instead of to you.

I had the pleasure of being in Washington last winter and of meeting your chairman, Mr. Terry, and of laboring with him to relieve the constitutional doubts of various constitutionalists who opposed federal legislation on the automobile question. Our labors (not Herculean on my part) were in vain. The constitution still stands, although I must say that I have sometimes thought it was badly shattered. Historically, the constitution has been made to serve many purposes and has afforded warrant for many policies not within the meaning of those who prepared it. According to tradition one loose constructionist has tossed it lightly aside with the remark, "What is the constitution between friends"? And another of the ruder mould petulantly dismissed it, when it collided with his wishes, with the profaner oburgation, "To hell with the constitution." Never having had occasion to break it or violate it in any official capacity, I have regarded it with

considerable reverence as a check upon the otherwise unbridled license of legislative and executive power.

As members of the great fraternity of automobilists, we are all interested in legislation affecting this great invention. Hundreds of millions of dollars are invested in automobiles and in their manufacture. In a business way, and as a source of pleasure and recreation, it is not too much to say that the automobile is fast becoming one of the greatest institutions in the world. It has for its devotees men in every rank, profession, and walk of life. The influence of this body of men cannot be over-estimated. And, in my judgment, this great force will grow stronger and stronger, so that its growth will in a short time exceed the expectations of the most sanguine.

The automobile as a vehicle for the transmission of business and the conveyance of freight and passengers is yet in its infancy. As a means of recreation it has no equal. It furnishes no field for the activities of the drunkard or the cad. It promotes loyalty, good-fellowship, skill, mental and physical vigor. In annihilating distance it is the equal of the railroad. It brings into close communion all the remote places.

The automobile should be entitled to equality before the law with all other vehicles and means of transportation. Yet we find a disposition on the part of various States to outlaw it by unwarranted restrictions and burdens. It is subject, I believe, in nearly all States to license fees. In fact, I understand that in one State it is

practically impossible for a non-resident automobilist to bring his car within the boundaries of the State. I look upon these burdens of special license fees and taxes as mediæval. They rank in oppression with the octroi taxes of continental Europe which burden at every boundary the market woman with her eggs, the peasant with his produce, and the merchant with his wares, to say nothing of those other restrictions on trade and commerce nearer at hand, which I will not more particularly describe because of my political faith.

My position is, that while each State may as to its own residents impose taxes or license fees upon automobiles owned by them, it cannot legally impose such license fees or taxes upon non-resident automobilists who bring their automobiles temporarily within the State for business or pleasure. If this tax can be sustained, then a tax upon any non-resident traveling within a State could be as legally imposed. The driver of a wagon, a bicycle, or a boat upon a stream, would offer as logical a subject for state license and tax as a non-resident automobilist. The same might be said of a foot passenger or of a man on horseback. License fees and taxes of this description have received the condemnation of our highest judicial tribunals.

In *Crandall vs. Nevada*, 73 U. S., 35, the Court had under consideration a law of the State of Nevada which imposed a capitation tax upon any person leaving the State upon any railroad or stage coach. This tax was to be paid by the officers and agents of the transportation company. I quote from the syllabus of this opinion: "The right of passing through a State by a citizen of the United States is one guaranteed to him by the constitution and must be sacred from state taxation. All the citizens of the United States, as members of the same community, must have the right to pass and repass through every part of it without interruption as freely as in their own States. Such a tax imposed by a State is inconsistent with the rights which belong to citizens of other States as members of the Union."

The Court in the course of its reasoning said: "So in the case before us it may be said that a tax of \$1 for passing through the

State of Nevada by a stage coach or by a railroad cannot sensibly affect any function of the government or deprive a citizen of any valuable right. But if the State can tax a railroad passenger \$1 it can tax him \$1,000. If one State can do this, so can every other State. And thus one or more States covering the only practical routes of travel from the East to the West, or from the North to the South, may totally prevent, or seriously burden all transportation of passengers from one part of the country to the other."

The Court likened the case to that of *Brown vs. Maryland*, 12 Wheaton, 419, where it was held that a statute of Maryland was unconstitutional which required all importers of foreign merchandise, who sold the same by wholesale, by bail, or by package, to take out a license.

In this Nevada case the Supreme Court said further: "If the right of passing through a State by a citizen of the United States is one guaranteed to him by the constitution, it must be as sacred from taxation as the right derived by the importer from the payment of duties to sell the goods on which the duties were paid."

In the *Passenger Cases*, 7 Howard, 283, the Chief Justice of the Court said: "For all the great purposes for which the Federal government was formed, we are one people with one common country. We are all citizens of the United States, and as members of the same community must have the right to pass and repass through every part of it without interruption as freely as in our own States. And a tax imposed by a State for entering its territory or harbors is inconsistent with the rights which belong to citizens of other States as members of the Union and with the objects which that Union was intended to attain. Such a power in the States could produce nothing but discord and mutual irritation, and they very clearly do not possess it."

In *Pittsburg & S. Coal Co. vs. Bates*, 156, U. S., 577, the Court held that goods which are the product of other States are not free from taxation in the State to which they have been carried for use or sale. This decision was placed upon the theory that the commodity in question was not in transit through the State that imposed the tax but had been brought there for the pur-

pose of sale and, therefore, became incorporated into the bulk of the property of the country. But the Court expressly recognized the exemption of goods which are in transit and which are not intended to remain permanently within the State.

This decision is like that of *Brown vs. Houston*, 114 U. S., 622, where the commodity in question was brought into the State for the purpose of sale and became mingled with the mass of property. In this last case the Court said:

"It was not a tax imposed upon the coal as a foreign product, or as the produce of another State than Louisiana, nor a tax imposed by reason of the coal being imported or brought into Louisiana, nor a tax imposed whilst it was in a state of transit through that State to some other place of destination. It was imposed after the coal had arrived at its destination and was put up for sale."

The clear implication from this decision is that had the commodity in question been in transit, it could not have been taxed.

The case of *Council Bluffs vs. Kansas, etc.*, R. Co., 45 La., 338, 24 Am. Rep., 773, emphasizes the doctrine of the other cases cited. The Iowa Court said: "Any regulation of the transportation of interstate commerce, whether it be upon the high seas, the lakes, the rivers, or upon the railroads or other artificial channels of communication affecting commerce, operates as a regulation of commerce itself."

And the Court extends the doctrine to all of the various burdens upon persons or property that may be imposed by State legislation, whatever may be their form.

In *Philadelphia & Reading R. Co. vs. Pa.*, 82 U. S., 232, the Court held that freight transported from State to State is not subject to State taxation, because thus transported, and that such imposition, whether large or small, is a restraint of the privilege or right to have subjects of commerce pass freely from one State to another without being obstructed by the intervention of the State lines. Also that a State statute imposing a tax on freight, so far as it applies to articles carried through the State, or articles taken up in the State and carried out of it, or articles taken up without the

State and brought into it, is unconstitutional and void.

Nor can it be argued that a tax or a license fee imposed upon automobiles in transit through a State is valid because a similar tax or license fee is imposed by the State upon all resident automobile owners. In other words, a State cannot levy a tax or license fee upon property temporarily within the State for the purpose of transit and sustain this tax by levying a like tax or license on automobiles having their situs within the State. This very question was decided in the case of *Reading Railroad Co.* in the 82 U. S. The Court said that practically the prohibitions against such regulations of interstate commerce would be nugatory, if it could be evaded by extending such regulations to domestic as well as extra territorial commerce, and no interpretation of the constitution which permits such an evasion could be legitimate. And the Court cites the case of *Minot vs. R. R. Co. (Del.)*, 3 Am. Law Times Rep., 193, where a statute of Delaware taxed the use of locomotives and cars on the railroads in that State. This statute was held to be unconstitutional, so far as it applied to the locomotives and cars used in commerce between the States. The *Minot* case was in the Circuit Court of the United States. Justice Strong said in delivering the opinion, speaking of the statute:

"And it is not the less a commercial regulation because it does not discriminate between transportation exclusively domestic and that which extends into other States. If a State chooses to exact conditions for allowing the passage or carriage of persons or freight through it into another State, the nature of the action cannot be changed by adding to it similar conditions for allowing transportation wholly within the State."

And in *Clark, etc., R. R. Co., Del.*, 1871, a statute of Delaware imposing a tax on transportation of any passenger within the State was held void so far as it operated upon "Persons entering into, departing from, or passing through, the State."

The Chancellor delivering the opinion of the Delaware Court said: "It may as well be observed at this point, that no arguments in support of the act can be drawn from the fact that it operates as well upon our citizens traveling wholly within the State, as upon

the citizens of other States passing into or through its territory. If the legislature have not the constitutional power to tax a particular class of passengers, plainly that power cannot be derived by including under the tax law another class of passengers who may be constitutionally taxed."

And in the case of *Railway Company vs. New Jersey*, 2 Vroom, 531, Chief Justice Beasley emphasizes the great evils which would ensue from recognizing the right of each State in the Union to tax persons and property in transit through its territory. And one of the judges in this case said:

"The law cannot say we will tax the citizen \$1 per barrel for each barrel of flour made in the State, and impose a like tax on each barrel carried through the State."

And Chief Justice Marshall in this case of *Brown vs. Maryland* very clearly condemns taxes of every nature upon persons or property on transit into or through the State. And he held that there was no distinction between a tax of the thing imported and one on the person of the importer.

In the case of *Woodruff vs. Parhan*, 8 Wallace, 123, the Court held a state tax on sales at auction was held valid although the goods were products of other States. But this decision in no way overturns the principle that a tax on goods in transit across the boundary lines of a State is void.

In *Robins vs. Taxing District of Shelby County*, 120 U. S. 489, the Court said, speaking of the power of the State taxation: "But in making such internal regulations a State cannot impose taxes upon persons passing through the State or coming into it merely for a temporary purpose, especially if connected with interstate or foreign commerce; nor can it impose such taxes upon property imported into the State from abroad or from another State, and not yet become part of the common mass of property therein."

And in this case the Court took up the proposition which had been urged upon it that the State Law in question made no discrimination between domestic and foreign drummers, and that all were taxed alike. The Court said:

"But that does not meet the difficulty. Interstate commerce cannot be taxed at all even though the same amount of tax should

be laid on domestic commerce or that which is carried on solely within the State. This was decided in the case of the *State Freight Tax Cases*."

These principles were again reiterated in the case of *Wabash, etc., R. Co. vs. Illinois*, 118 U. S., 557. The Court in that case took pains to say that it had never held that a statute of a State intended to regulate or to impose any other restriction upon the transmission of person or property or telegraphic messages from one State to another was valid. And the doctrine of the *State Freight Tax* case is fully approved.

In *Pickard vs. Pullman So. Car Co.*, 117 U. S., 34, it was held that a license or privilege tax on sleeping cars not owned by roads upon which they are run in the State was invalid in so far as it affected interstate commerce. The Court again reiterates the doctrine of the *State Freight Tax* case.

See also, as supporting fully the same doctrine, *Gloucester Ferry Co. vs. Pennsylvania*, 114 U. S., 196.

In *Wiggins Ferry Co. vs. East St. Louis*, 107 U. S., 365, it was held that a license fee might be imposed upon a ferry keeper living in the State, for boats which he used in conveying passengers to and fro from another State. This was placed on the ground that the ferry boat had its situs at the owner's place of residence and was, therefore, taxable at that place.

In *Walling vs. Michigan*, 116 U. S., 446, Mr. Justice Bradley, speaking for the Court, says: "We have also repeatedly held that so long as Congress does not pass any law to regulate commerce among the several States, it thereby indicates its will that such commerce shall be free and untrammelled."

And as further supporting our position, is *Welton vs. Missouri*, 91 U. S., 275. This was a license tax enacted from persons who sold non-domestic merchandise in the State.

In *Almy vs. California*, 24 Howard, 169, a State stamp tax imposed on bills of lading for the transportation of gold or silver from any point within the State to any point without it was held invalid.

In what are called the *Head Money Cases*, 112 U. S., 580, the Court treated it as a settled matter that to tax the transit of passengers from foreign countries or between the States was invalid.

See also *Henderson vs. Mayor*, 92 U. S., 259, and *People vs. C. G. T.*, 107 U. S., 59.

In *Western Union Telegraph Co. vs. Texas*, 105 U. S., 460, it was held that a State law was unconstitutional which imposed a tax on messages sent from one State to another.

And in *Leloup vs. Mobile*, 127 U. S., 640, it was held that a similar State tax was none the less void because laid on the business of sending such messages. And in this last case the seeming contrary doctrine of *Osburn vs. Mobile*, 83 U. S., 479, was criticised and in effect overruled.

And the case of *Ratterman vs. Western Union Telegraph Co.*, 127 U. S., 411, holds that a State tax on receipts of a telegraph company derived from interstate business was void.

Moran vs. New Orleans, 112 U. S., 69, is to the same effect, but holds that a vessel engaged in foreign or interstate commerce might be taxed by State authority as property at the port of registry where it had a situs. And this doctrine is also well supported by other authorities.

See also *Western Union Telegraph Co. vs. Attorney General*, 125 U. S., 530.

And in *Philadelphia, etc., Co. vs. Pennsylvania*, 122 U. S., 26, the Court held that a State statute imposing a tax upon interstate commerce was unconstitutional and not cured by including in its provisions subjects within the jurisdiction of the State.

In *Coe vs. Errol*, 116 U. S., 517, it was held that products of a State intended for exportation to another State and partially prepared for that purpose by being deposited at a place or port of shipment within the State are liable to be taxed like other property within the State. But this decision was placed upon the ground that the property had not become the subject of the interstate commerce. Its situs was for the purpose of taxation fixed where the property was. It was not yet in transit.

In *Kelley vs. Rhoades*, 188 U. S., 1, the Court held that a flock of 10,000 sheep which is being driven from the territory of Utah across the State of Wyoming to the State of Nebraska, at the rate of about nine miles a day, is a subject of interstate commerce and exempt from the taxation in Wyoming. The sheep, it seems, lived

by grazing along the road. In this case the principle I contend for is reaffirmed. Certainly, if sheep in transit from one State to another, strolling along a highway, are safe from taxation, an automobile should be entitled to like freedom, and should not be cast among the goats, to borrow a figure from Holy Writ. The automobile often strolls along the road with frequent stoppages, arising either from the necessity of its own mechanism, or from the inability of its proprietor to make it go. It stops where it listeth and proceeds when it wishes. It drinks of the pellucid gasoline springs that fringe our highways, while its owner feeds at the near-by farmhouse. In many respects it sustains a close analogy to the woolly and ingenious sheep, although its disposition is not so lamblike.

And in *Bowman vs. Chicago & N. W. R. Co.*, 125 U. S., 465, a State statute forbidding common carriers from bringing intoxicating liquors within the State without first having a certain certificate required by law, was held void as a regulation of commerce. It was also held that such a statute was not an inspection law, nor a quarantine or sanitary law, and not a legitimate exercise of the police power of the State.

If the analogy which I have sought to draw between an automobile and a sheep be strained, certainly I may be justified in saying that the analogy is closer between an automobile and a package of intoxicants. For each of these two latter is of uncertain potentialities.

In the case of the *Railroad Company vs. Husen*, 95 U. S., 465, it was held that an act of the Legislature of Missouri which prohibited driving or conveying any Texas, Mexican, or Indian cattle into the State between the first day of March and the first day of November in each year, was void. The Court said: "While we hesitatingly admit that a State may pass sanitary laws and laws for the protection of life, liberty, health, or property within its borders; while it may prevent persons and animals suffering under contagious or infectious diseases, or convicts, etc., from entering the State; while, for the purpose of self-protection, it may establish quarantine and reasonable inspection laws, it may not inter-

fere with transportation into or through the State, beyond what is absolutely necessary for its self-protection. It may not, under the cover of exerting its police power, substantially prohibit or burden either foreign or interstate commerce."

In this case of *Wabash, etc., R. Co. vs. Illinois*, the Court said: "It cannot be too strongly insisted upon that the right of continuous transportation from one end of the country to the other is essential in modern times to that freedom of commerce or the restraint which the States might choose to impose upon it, that the commerce clause was intended to secure."

The Iowa Law in the case of *Bowman vs. Chicago & N. W. R. Co.* in effect provided that liquors could not be brought into the State without a license for that purpose and in this respect that law was exactly like the State laws which compel the payment of a license fee by the non-resident owners of automobiles brought into the State.

In the case of *People vs. Naglee*, 1 Cal., 232, 52 Am. Dec., 312, the Court held that a statute requiring the payment of a license fee by foreigners for the privilege of gold mining and prohibiting those without such license from working the mines was not invalid. But the Court put this decision expressly on the ground that the persons so subjected to license were not transiently passing through the State but had made themselves a part of the mass of its population. It is very evident that the Court would have arrived at a different decision had the tax or license fee been levied upon persons traveling through the State.

In *Burlington Lumber Co. vs. Willitts*, 118 Ill., 359, 9 N. E., 254, the Court held that property in the course of transportation from one State to another over a navigable river, or over one of the public highways of the country, is not liable to taxation while in transitu, and that a detention by ice, low water, or obstruction to navigation would not deprive the property of its condition of transit.

In *Erie Railroad Company vs. State*, 2 Vroom, N. J., 531, 86 Am. Dec., 226, it was held that the State statute requiring the payment of certain transit duties on passengers and freight by transportation companies, excepting passengers and freight

transported exclusively within the State, was void under the constitution of the United States.

In *Caldwell vs. N. C.*, 187 U. S., 622, it was held that an ordinance imposing a license fee upon an agent of a non-resident company that shipped its goods to such an agent to fill orders previously obtained was invalid.

And to the same effect is *Brennan vs. Titusville*, 153 U. S., 289.

Asher vs. Texas, 128 U. S., 129.

Stoutenburgh vs. Hennick, 129 U. S., 141.

Crutcher vs. Kentucky, 141 U. S., 47.

Stockard vs. Morgan, 185 U. S., 27.

In *Champion vs. Ames*, 188 U. S., 321, it was held that the carriage of lottery tickets from one State to another by an express company is interstate commerce and subject to the control and regulation of Congress.

In *Western Union Telegraph Company vs. Pendleton*, 122 U. S., 347, the Court held that the subjects of interstate commerce covered all visible tangible things and also the carriage of persons and the transmission by telegraph of ideas, wishes, orders, and intelligence.

In *Covington & C. Bridge Co. vs. Kentucky*, 154 U. S., 204, it was held that an act of the State Legislature relating to tolls be charged for passing over a bridge between two States and prescribing a rate of toll was unconstitutional as an authorized interference with interstate commerce.

In *Pittsburg & S. Coal Co. vs. Bates*, 156 U. S., 577, it was held that goods were taxable in the State to which they were shipped for the purpose of sale, they having become a part of the mass of property of the State.

Among other cases supporting our proposition we refer to *U. S. Express Co. vs. Hemmingway*, 39 Fed. Rep., 60; *Wells Fargo & Co. vs. Northern Pacific R. Co.*, 23 Fed. Rep., 469; *Norfolk & N. W. R. Co. vs. Pennsylvania*, 136 U. S., 114.

McCall vs. California, 136 U. S., 104.

Re Kimmel, 41 Fed. Rep., 775.

State vs. Pratt, 59 Vt., 590.

Wrought Range Co. vs. Johnson, 84 Ga. 754, 8 L. R. A., 273.

Pollock vs. Farmers Loan and Trust Co., 158 U. S., 601.

U. S. Express Co. vs. Allen, 39 Federal, 712.

There is no legitimate object or purpose in the State license laws relating to automobiles. They are not imposed for the purpose of paying inspection fees or for any other proper purpose. It is simply a method on the part of the State, so far as it relates to transient automobiles not having a situs in the State, of collecting revenue. None of these laws can be sustained on the ground that they are in the nature of quarantine or inspection laws.

In *Steamship Co. vs. Port Wardens*, 73 U. S., 31, it was held that a law of Louisiana providing that the master and wardens of the port of New Orleans shall be entitled to receive in addition to other fees the sum of \$5 whether called upon to perform any service or not, for every vessel arriving in that port, was contrary to the constitution of the United States. It was claimed in that case that the tax so imposed could be sustained on the ground that it was like pilot fees. The Supreme Court said in reference to this claim: "But there are two answers to this proposition. The first is that no act of Congress recognizes such laws as that of Louisiana as proper and beneficial regulations while the State laws in respect to pilotage and half pilotage are thus recognized. The second is, that the right to recover pilotage and half pilotage as prescribed by the State legislation rests not only on State laws but upon contract. Pilotage is compensation for services performed, half pilotage is compensation for services which the pilot has put himself in readiness to perform by labor, risk, and cost, and which he has actually offered to perform. But in the case before us there were no services and no offer to perform any. The State law is express. It subjects the vessel to the demand of the master and wardens whether they be called on to perform any services or not."

The rolling stock of a foreign corporation used in operating its road in a State is not liable to taxation under the tax laws of that State.

Baltimore & O. R. Co. vs. Allen, 22 Fed. Rep., 376.

The grounds of this decision were that the situs of the rolling stock was for the purpose of taxation at the place of domicile

of the corporation. This is in accordance with the ruling in *Orange & A. R. vs. Alexandria*, 17 Grat., 186.

And in *Philadelphia W. & B. Co. vs. Tax Court of Baltimore*, 50 Md., 415, the Court said of a similar state of facts: "The engines and cars of the appellant have no abiding place or permanent location in this State so as to become incorporated with the other permanent property of the State, and are only brought here transiently while employed in the operations of the road."

In support of this I also refer to the case of *Pacific R. Co. vs. Cass Co.*, 53 Mo., 31. In that case it was held that the rolling stock of a railroad company which is in a county not the logical residence of the corporation and is merely used in transit or temporarily there, is not taxable in such a county, but is to be assessed and taxed in the county which is the logical residence of such corporation.

And in line with these decisions is the case of *Kennedy vs. St. Louis V. & T. H. R. Co.*, 62 Ill., 395. *Randall vs. Elwell*, 52 N. Y., 521.

The same principle was established with reference to steamships duly registered and taxed at the place of domicile of the owner, and trading at ports in the State that sought to impose the taxes in question. The Supreme Court of the United States has held that such vessels were but temporarily engaged in lawful trade and commerce with their situs at the home port where the vessels belonged.

This decision was followed in *Transportation Company vs. Wheeling*, 9 Otto, 282; *State Tonnage Tax Cases*, 12 Wallace, 213; *Guenther vs. Mayor, etc., or Baltimore*, 55 Md., 460; *Commonwealth vs. Glouster Co.*, 98 Pa. St., 124.

In seeming contradiction to some of these decisions is the case of *Pullman's Palace Car Co. vs. Tuomby*, 29 Federal Rep., 658. This case arose in Iowa. Yet the Court says of the case before it: "This is not the case of a car owned in another State making a single trip through the State of Iowa and then returned to the State where it belongs. Such temporary transit, it may be said, would not change the situs of the property."

But the Court does hold that rolling stock, such as Pullman cars, might be so

continuously and constantly within a State, even though used for interstate travel, as to require a situs for the purpose of taxation within the State. I regard the reasoning as somewhat unsound, but it does not collide with the general principle for which I contend, that vehicles of every description used in interstate travel, and in transit from one State to another, are not taxable under State laws outside of the domicile of the owner.

See also *Central R. Co. vs. State Board of Assessors*, 49 N. J., Law 1.

The case of the *Pullman So. Car Co. vs. Nolan*, 22 Fed. Rep., 276, supports our proposition to the fullest extent. It was there held that the car company, a corporation of Kentucky, had no domicile in Tennessee and was not personally subject to its jurisdiction for the purpose of taxation upon its cars. That sleeping cars carried into Tennessee in the transportation of interstate passengers had no taxable situs within that State. The tax in question was one of \$75 a year for every car coming into the State and unless the car was so licensed its use as a means of transportation was forbidden.

While the case of *Pullman's Palace Car Co. vs. Pennsylvania*, 141 U. S., 18, in some of the language used by the Court appears contrary to the views herein expressed, yet when applied to the subject matter of the action, there is no lack of harmony. In that case the State assessment of taxes was based on the capital stock of the company apportioned according to the ratio which the mileage within the State bore to the entire mileage of the company. It was not a tax upon the rolling stock or property in transit. Even with this distinction three judges of the Court filed a dissenting opinion.

An important case on this question is *Simmons Hdw. Co. vs. McGuire*, 39 La. Ann., 848, 2 So. Rep., 592. It was there held that a State could not impose license taxes upon persons passing through or coming into it merely for a temporary purpose especially if connected with interstate commerce, nor could it impose such taxes upon property imported into it from abroad or from another State and not yet become a part of the common mass of property

therein. The Court further held that interstate commerce could not be taxed at all by a State statute, even though the same amount of tax should be laid on domestic commerce or on that carried on solely within the State. The Court uses the same language as that used by the Supreme Court of the United States in *Robbins vs. the Tax District of Shelby Co.*

These principles were fully sustained in *State vs. Pratt* (Vt.), 9 At. Rep., 556.

The Louisiana Supreme Court again announced this doctrine in *McClellan vs. Petigrew*, 44 La. Ann., 356, 10 So. Rep., 853.

In *Clements vs. Town of Casper*, 4 Wyo., 494, 35 Pac. Rep., 472, the general principle was established as the law of Wyoming that persons and property in transit and temporarily within the State could not be taxed under State laws.

In *Harmon vs. Chicago*, 147 U. S., 396, the Court had under consideration an ordinance of the city of Chicago requiring a license fee for steam tug boats navigating the Chicago River. These boats were engaged in the coasting or foreign trade and in towing vessels engaged in interstate commerce. The Court held the ordinance void, reversing the judgment of the Supreme Court of Illinois. It was also held in the case that the license so exacted could not be supported as a fee or tax for the special improvement of deepening the river nor to pay the expenses of such an improvement. The last proposition meets the contention made of those who have favored State licensing of automobiles, that the license fee may be considered a fair equivalent for the use of the public highways.

In *Peete vs. Morgan*, 86 U. S., 581, it was held that the expense of quarantine regulations could not be raised by a tax on foreign-owned ships engaged in interstate or international commerce.

And in *People vs. Pacific Mailing, etc., Co.*, 16 Federal, 344, it was held that a statute requiring the payment of seventy cents for each passenger inspected coming into the United States by sea, and imposing a fine for non-payment upon the owners and consignees of the vessel bringing in the passengers, is void.

In *State vs. Neil*, 7 Ohio, 132, 28 Am. Dec., 623, it was held that a statute assess-

ing tolls upon passengers carried by mailing coaches in Ohio was valid, but this decision was reversed by the Supreme Court of the United States in 44 U. S., 720.

I note also the case of *Lyng vs. Michigan*, 135 U. S., 161, following *Leisy vs. Hardin*, 135 U. S., 100, and in *re Flinn*, 57 Fed. Rep., 496.

In *State vs. Cumberland & P. R. Co.*, 40 Md. 22, it was held that a statute imposing a tax on all coal mined in the State and transported to any place in the State or elsewhere, for sale, is unconstitutional as an attempt to regulate commerce among the several States. We might well doubt this decision and cannot understand how it can proceed from a State that holds that an automobile in transit through a State is a proper subject of taxation.

In *Morgan vs. Parham*, 16 Wallace, 471, the Court used the following language: "The fact that the vessel was physically within the limits of the city of Mobile at the time the tax was levied does not decide the question. Thus, if a traveler on that day had been passing through that city in his private carriage, or an emigrant with his worldly goods on a wagon, it is not contended that the property of either of these persons would be subject to taxation as property within the city. It is conceded by the respective counsel that it would not have been."

In *U. S. vs. Colo. & N. W. R. Co.*, C. C. A., 8th Circuit, 157 Fed. Rep., 321, the Court defined the federal power to regulate commerce among the States in the following language: "The power to regulate commerce among the States is general, and includes authority to regulate all its parts (1) the subjects of commerce, the articles, information, intelligence transported from State to State; (2) the transactors of commerce, the merchandise, carriers, laborers who carry it on; (3) the means, the vehicles, the cars, steamboats, coaches, wagons by which subjects of commerce are carried; (4) the operation, the contracts, the terms, rates under which it is conducted." This decision was sustained on appeal 52 L. Ed.

And in this case it was decided that the power to regulate interstate commerce is as complete upon the land as upon the navigable waters of the nation, and congressional

regulation upon the former must be interpreted by the same rules and enforced with the same efficiency as like regulations upon the latter.

See also in support of this in *re Debbs*, 158 U. S., 564.

If the transit of automobiles across State boundary lines be interstate commerce, as seems clear, then any burdens or restrictions upon such commerce must be void. Where Congress has passed no law regulating interstate commerce of a particular character, this fact is conclusive evidence that it intends such commerce to be free. Any law of a State burdening this commerce with tax or license fees is unconstitutional and void. This is the principle established in nearly all of the cases we have cited and seems to be universally accepted as the true rule.

In *Hopkins vs. U. S.*, 171 U. S., 578, it was declared that the term "interstate commerce" is a term of very large significance. And that the power conferred by the constitution upon Congress to legislate respecting interstate and foreign commerce was without limitation.

In *Sherlock vs. Alling*, 93 U. S., 99, the Court said, speaking of this power: "It authorizes legislation with respect to all the subjects of foreign and interstate commerce, the persons engaged in it and the instruments by which it is carried on."

And while Congress has plenary power over all matters and subjects of interstate commerce, even matters of mere police regulation, yet it may confide these latter to the jurisdiction of the States.

See *Nashville, Chattanooga, etc., R. Co. vs. Alabama*, 128 U. S., 96.

New York, etc., R. Co. vs. New York, 165 U. S., 631.

M. K. & T. R. Co. vs. Haber, 169 U. S., 613.

Pierce vs. Van Dusen, 78 Fed. Rep., 693, 69 L. R. A., 705.

Pennsylvania R. Co. vs. Hughes, 191 U. S., 477.

C. M. & St. P. R. Co. vs. Solan, 169 U. S., 133.

Kelly vs. Great Northern R. Co., 152 Fed. Rep., 211.

But none of these decisions go further than to uphold police regulations of interstate commerce by the different States

where the federal government has not legislated in respect to the matter. They do not sustain taxes, license fees, or other burdens imposed by State legislation upon such commerce.

I notice that the dignity of the automobile has been recognized in the city of Chicago vs. Banker, 112 Ill. App., 94, where it was held that an ordinance requiring the owners of automobiles who used their vehicles for private business and pleasure only, to submit to examinations and take out licenses, imposed a burden upon one class of citizens in the use of the streets which is not imposed upon others, and such an ordinance is, therefore, void. If this decision correctly states the law, then all State laws and municipal ordinances of the character mentioned are void because discriminatory. They do not give to automobile owners the equal protection of the law. Such grounds of invalidity are independent of those that I have been discussing. It might well be also that this principle would invalidate federal legislation of the same character. I merely suggest this without attempting to reach any definite conclusion upon it.

In this connection see Chicago vs. Collins, 175 Ill., 445, 51 N. E. 907, 49 L. R. A., 408, 67 Am. St. Rep., 224. In this case the Supreme Court of Illinois held that a city had no power to impose by ordinance a license fee on every person using wheeled vehicles on its streets for their own pleasure, even though the ordinance provided that the moneys so received should be expended in improving the streets. The Court placed the decision in part upon the principle that such vehicles being already taxed at their value for general purposes, the license fee imposed a double tax. The Court said in this decision:

"Any method of travel may be adopted by individual members of the public which is an ordinary method of locomotion, or even an extraordinary method, if it is not of itself calculated to prevent a reasonable safe use of the street by others. If a right exist in a city council to impose license fee by way of tax on every person using wheeled vehicles thereon, it may in like manner impose such license fee for such use on the streets on every other manner of locomotion

or travel, and reach the man on horseback or the pedestrian."

And the Court distinctly avers that the use of the public streets is not a privilege but a right.

An apparently contrary view was taken by the Supreme Court of Michigan in *People vs. Schnieder*, Mich. 103 N. W., 172, 69 L. R. A., 345.

A distinction might well be made between the crowded streets of cities and the ordinary country highways and a regulation be valid in the one case which would not be valid in the other.

Those who are interested in following up this question further will find a voluminous brief in 1 L. R. A. N. S., 215, in the case of *Christy vs. Ellicott*, 216 Ill., 31.

In *State vs. Cobb*, Mo. App., 87 S. W. R., 551, the defendant's counsel sought to raise the constitutionality of the automobile law, but the Court held that the question had not been properly presented and refused to pass on it.

In *Simpson-Crawford Co. vs. Borough of Atlantic Highlands*, C. C. N. J., 158 Fed. Rep., 372, where the borough passed an ordinance imposing an arbitrary annual license tax of \$10 on every two-horse truck or vehicle engaged in the transportation of merchandise and a tax of \$7.50 on every one-horse vehicle similarly engaged, it was held that this ordinance was not an exercise of police power but a revenue measure and was inapplicable to interstate commerce carried on by means of such vehicles, although it operated equally on both interstate and domestic commerce.

See, also, *Rearick vs. Pennsylvania*, 203 U. S., 507.

Among more recent instructive cases on this subject are *International Text Book Co. vs. Peterson* (Wis.), 113 N. W., 730.

State vs. Minneapolis Northern El. Co. (N. D.), 114 N. W., 482.

Parks Bros. & Co. vs. Nez Perce County (Idaho), 89 Pac. R., 949.

International Trust Co. vs. A. Leschen, etc., Co. (Col.), 92 Pac. R., 727.

State vs. Northern Pacific R. Co. (Mont.), 93 Pac. Rep., 945.

Patterson vs. Missouri Pac. R. Co. (Kan.), 94 Pac. Rep., 138.

Henley vs. Kansas City R. Co., 187 U. S., 617.

Peterson vs. State (Neb.), 112 N. W., 306.

State vs. Omaha El. Co. (Neb.), 112 N. W., 306.

Stubb vs. People (Col.), 90 Pac. Rep., 1114.

(The State statute involved in this case prohibited the importation and use of docked-tailed horses and was held unconstitutional.)

Summing up all the authorities, one must reach the following conclusions as to automobile legislation:

First: A State may impose taxes and license fees with respect to automobiles owned or controlled by residents of such State or as to automobiles that are not in transit through or into the State.

Second: Like burdens may be imposed upon automobiles owned by non-residents of a State, that are within the State and not in transit, but which have by reason or circumstances a permanent situs within the State.

Third: This does not extend, however, to automobiles in transit from, through, or into a State, even though such transit may be delayed from necessity or at the pleasure of the owner in traveling within the State.

Fourth: In the absence of federal legislation the States may establish reasonable police regulation relating to the operation of automobiles engaged in interstate travel, such as fixing speed limits and matters of this kind.

Fifth: It is desirable to have a federal law providing for registration and numbering of automobiles, in order that those which may be used from time to time in interstate travel should be capable of identification and their status be thus publicly determined and recorded.

Sixth: This federal legislation ought not to enter into the field of mere police regulation. Such regulation can be safely left to each State, as they would necessarily, under various constitutional limitations, be impartial and non-discriminative as between domestic and foreign automobiles.

Seventh: Such federal legislation would not prevent the State from licensing and taxing domestic automobiles under the limitations herein suggested.

Eighth: It is not necessary to determine whether this entire subject of regula-

tion of interstate automobile travel lies outside of State jurisdiction. The fact that, as matters now are, the States can establish any number of diverse burdensome exactions, is enough to call for federal legislation, in order that the main part of this regulation can be accomplished through a harmonious federal law.

Ninth: If not already commenced, a test case should be provided for, in order that this question may be finally settled by our highest judicial tribunal, the expense of such test case to be borne by some one or more of the various automobile clubs.

Permit me to say in closing that I have not tried to cite all the authorities nor, despite a considerable trespass on brevity, have I argued at length this important question. I somewhat hastily sought to present principles which can be easily understood by both lawyer and layman. It is intolerable that automobiles should be subjected to the exactions of State legislation, at least until the power to enact such legislation has been finally judicially determined. We ought to have the right to travel freely and without yielding up toll or tribute across the boundary line of every State in this Union. Our rights in this respect are as sacred as those of all other travelers. And whether these rights be placed upon the ground of the fundamental liberty of the citizen to go freely and without restraint through every part of our country is not important. I hope the time has not yet come when, as a part of settled policy, State constabulary can meet peaceful travelers at State boundary lines and levy tribute upon them for the privilege of crossing such boundaries. It is true that in many of the States this tribute is small. So was the ship money of the king which the patriot Hampden refused to pay. So were the taxes levied upon these colonies which lead to the great revolution. It is not the amount of the tax but its injustice that should move us to a sturdy resistance. I am only giving you my opinion and the reasons for it. To know what the ultimate decision will be is not within mortal ken. I cannot prophesy clearly upon this, nor do I wish to indulge in the boasts of him who taketh off his armor.

In parting from you, allow me to wish

you all the pleasures of the perfect car, a passage, and the vigor and pleasure of the fat spark, a free highway, a bumpless game. (Applause.)

CHAIRMAN TERRY:—Gentlemen, the meeting is now open for a limited time for discussion on anything pertaining to any of the topics which have been covered by the addresses so far, that is, pertaining to federal automobile legislation.

FRANCIS A. HURTUBIS, JR., of the Automobile Owners' Association of Massachusetts:—*Mr. Chairman*:—I understand that this is the proper place to butt in to the address of the gentleman who has discussed the constitutionality of this law. I am not aware that I can add very much to what he has said, but the Chairman of the Legislative Committee and Chairman of this meeting has asked me to come here and say as vigorously as I can a word or two in behalf of this federal law.

In Massachusetts we are very close to the other States — we are surrounded by Maine, New Hampshire, Vermont, Connecticut, Rhode Island, and New York, and we can cross our State and two or three other States almost in a day in a good high-powered car. I believe there is not an automobilist in this assemblage, or, perhaps, in the country, who has indulged in interstate travel who has not felt at one time or another that a federal law containing the provisions of the bill which has been presented to Congress would be a distinct benefit and advantage to him. A case has recently arisen in Massachusetts which makes such a law quite the necessary thing at this moment. Our legislature has adjourned and will not convene until next January. Recently, an engineer of the American Locomotive Automobile Company of Providence came through the town of Norwood, which is some twenty miles from Boston. He was engaged partly upon business for his company and partly upon pleasure. He came into the town of Norwood and was stopped, arrested for not having a Massachusetts license and I was counsel for him in the Courts, and I was asked to submit a brief of why he should not be convicted. The law of Massachusetts, which was enacted in 1903, provides that any non-resident owner of an automobile may operate it upon the highways of Massachusetts for a period of at least seven days. I contended in the courts that inasmuch as a corporation could not use its own property except by its servants or agents, that when one of its servants or agents was using that property, such as an automobile, upon the highways of Massachusetts, the owner was using that property upon the highways. Our Courts held that the law did not intend any such thing. Now, we all know that it is absolutely impossible for 100 stockholders of a corporation to all operate a car. They must operate by an agent or a servant, and yet our Court has held that they cannot; and all the automobilists of Rhode Island and the other New England States are now confronted with the necessity of coming to Massachusetts and being specially examined or of getting out of the State. The Highway Commissioner has also gone a step further and requested every foreign chauffeur coming to the State to be first examined before he can operate upon the highway. It seems to me the law never intended any such thing, because the law of agency applies, and I have no doubt it is a fundamental thing, in the enactment of law, that when an owner does a thing by another he does it himself, and the law of Massachusetts evidently intended that when an owner was in a car or was sending his car into Massachusetts by his servant or agent, that owner was operating the car. That only leads to one of the reasons why a federal law should be enacted. It is in line with the New Jersey law and the Pennsylvania law and the Maryland law, where we must register first before we go into the States. This is an unfortunate thing in Massachusetts, but we are up against it. If we had a federal law we would not be put to the necessity of registering first in Massachusetts.

As to the constitutionality of this law. It has been so well presented that I am not going to say very much about it, except this one thing: that it is established by numerous decisions, and we all know that the constitution provides that Congress may regulate commerce. Commerce is traffic, and commerce is intercourse, and intercourse is intercommunication, that is, ingress and egress. When an automobile is being operated through

another State for pleasure or for business, it is engaged in intercommunication, intercourse, commerce. Congress can regulate commerce, and, therefore, it can constitutionally regulate the passage of automobiles through one State into another. These ideas are emphatically established by numerous decisions of the Supreme Court of the United States, and I believe that there can be no question in the mind of any lawyer who has studied the case at all, nor in the mind of any layman who had given any thought to it, but that Congress has absolute power of constitutionally enacting a bill providing for the regulation and licensing operators of automobiles traveling interstate.

I believe that I have exhausted my time, but I hope that every motorist here and every man here who is inclined to give the motorist a fair chance to operate without the least possible obstruction, will work for this bill when it comes up in the next session of Congress. It is a very small favor to ask of the national government. I think that we are such a large number of people now as a class in the population, men who are using automobiles, that we have a right to demand an opportunity to travel interstate without being registered in every State that we may travel. (Applause.)

J. F. BEAN, of Welland County, Ontario:— *Mr. Chairman and fellow members*, I have been very much interested in the addresses that have been given, but there are some points that they have not touched upon. The gentleman who spoke last from the platform spoke of the question of justice. The first speaker, the Chairman, Mr. Terry, spoke of all restrictions being done away with with regard to speed. Now, gentlemen, I am speaking from a farmer's standpoint. There are those who cannot keep up with the automobile—the horse vehicle. Now, is it justice that a high flyer like the automobile should not be restricted on the highway? Suppose some person gets on the sidewalk and says he wants to run at full speed, that he wants to race on the sidewalk; won't he be apt to run over children and against other people on the sidewalk? My experience with the automobile people at the fairs held in Welland County, was that the automobiles when going home, went past the procession of farmers at full speed; they wouldn't slow up; as the Congressman said, they did not obey the manners of the road. We think that it is certainly justice to limit the speed of automobiles. I am not a person who is opposed to automobiles. I believe, from the farmer's standpoint, that the automobile is destined to be used by the farmers probably as much as by the city people, or more so, and that the farmer will have his automobile and the farmer will work his farm perhaps with it, yet there certainly is justice in limiting the speed, it seems to me, of the automobile. Forty or sixty miles on the highway where the slow horse vehicles operate is too much. But, gentlemen, this is a great convention to solve this question and I hope you will solve it.

Then there is another question, and I think the good roads question resolves this question into a financial problem. In speaking of the tax question, the automobile people come on with their high flyers and they create a dust; they injure our gardens; they injure the crops; they injure the pasture fields; they kick up far more dust than the horse vehicle! Why should they not pay their share in regard to the maintaining of the roads? The question of the distribution of cost, it seems to me, is the great question in this question of good roads. Why should not the automobile people be taxed? Why should not they pay their proper proportion of the cost of maintaining highways?

I will just say one more word, and sit down. In Ontario we have less population to the mile than you have in your popular State. In York State you have more people than in all the Dominion of Canada. We have in one province, Ontario, passed an enactment where the Government aid to the amount of one-third is granted; that was passed seven years ago. But only three hundred thousand dollars of that has been used in the seven years. We are behind the times. But we want more government aid. I think that that is the way to solve this problem. It should be State aid, one-half at least, or more. I understand you have gone further here in York State than any other State; the State is paying the whole cost for a number of the leading thoroughfares, and then the automobile people and the city people who are using them more are paying more for them. (b. v.)

CHAIRMAN TERRY:— At the risk of seeming to take more than my allotted time, I wish

to correct Mr. Bean. I think there is no difference between himself and myself on the question of speed. My proposition is not that all speed limitation should be taken off. My proposition is that it is absurd to say that it is negligent to go any particular rate of miles an hour at any particular time. I say that it leads to an evasion of the law to say that it is negligent under some circumstances to go twenty miles an hour and that an automobilist may go twenty miles an hour under all circumstances in certain parts of the country. I say that it might be negligent to go six miles an hour to go at all out here at the corner of Main Street, when it might not be at all negligent to go forty miles an hour at eleven o'clock on a sixty-foot wide highway out in the country. I say that the test of speed limitation should be "what is reasonable and proper," the width of the highway, the time of day, the other traffic, and all other things considered.

FRED B. PARKER, Assemblyman, of Genesee County, N. Y.:—*Mr. Chairman and fellow members*, It is a little bit amusing to me to-day to see this Convention this forenoon. I think I am safe in saying as I look this crowd over, that there are five country people here—probably highway commissioners and supervisors—to one automobilist. To-morrow night we will have a banquet at the Iroquois, and find the reverse. That is one reason why they are lame; I think they should attend these conventions and get together on these subjects.

Mr. Terry and I have had many a scrap on the internal affairs committee in the State Legislature, and while I think he is wrong part of the time, I may be wrong the rest of the time. For instance, Mr. Terry is a cityman. Lots of other automobilists, while they should be here to-day and hear the farmers, are not present. Mr. Terry could not see one time this winter before that committee why the glaring light of an automobile coming toward a horse driving in the night in the country blinded him. Apparently, Mr. Terry hasn't done much country driving. If the automobilists would come and talk the thing over we could all get together. I am in hearty sympathy with Congressman Cox. If the automobilist would at certain times be just a little bit more careful—possibly he is not to blame, merely because he hasn't been the user of horses! I have had horses that weren't afraid of automobiles, become suddenly frightened by something, and never again get over it. There are a good many of those points that might be brought out if the automobilist would only come and discuss the thing with the farmer.

I am in hearty sympathy with the federal bill, as it seems hard to get State legislation through. We should have it uniform. For instance, with this State legislation last winter, we were asked to hold up all local bills introduced. We held them up and held them up, because the State Automobile Association was going to introduce a bill and touch on all the points; and we held up the bill, and the automobile bill never appeared. We finally got out of committee the Baxter bill, which was a little drastic, copied from the New Jersey bill, but it was amended, and it looked as though it might pass; and immediately the Automobile Association bill was introduced in both houses. This bill was advanced to second reading, the Legislature was nearing adjournment, and the automobile bill suddenly disappeared, never came up afterward for final passage, the Legislature adjourned again without automobile legislation in this State.

I think, gentlemen, we should censure the automobilists some for not attending these meetings and getting together. I expect to-morrow afternoon Engineer Skene's address will be very interesting and I hope the farmers will see fit to attend that as well as the one to-day. (Applause.)

POWELL EVANS, President of the Philadelphia Automobile Club:—*Mr. Chairman*, On behalf of the Automobile Club of Philadelphia, I desire during this legislative session on good roads to call pointed attention to the subject of club organization and coöperation all over the country.

The American Automobile Association, the national body of motorists, comprising some twenty State organizations, including over 200 local clubs and over 20,000 individual members of the latter, is a tremendous force, if every organization and every member in these understands precisely the work which could and should be done, and contributes something to this work, and does all of it along the same lines. I do not believe that the entire body is yet organized to the extent of reasonably attaining this end.

In our local work I have found it desirable to carefully consider the reasonably needed committees, in number, scope, and name. From what I have heard and seen of similar clubs all over the country there is no uniformity in their methods; therefore, the local clubs in State coöperation do not meet at common points in their work along common lines, nor does it appear that the State bodies in turn uniformly coöperate in the National Association as fully as might be the case.

It is not remarkable that this is the fact because there has not yet been sufficient time for such perfect machinery to be devised or put into smooth operation, but unless we squarely face the necessities and merits of more equally defined coöperation, its arrival will be unduly delayed. I, therefore, venture to suggest that the A. A. A., acting through some committee, consider and formulate an ideal club organization which may constitute a skeleton for local and State bodies as well as for this national body. The fewer committees the better in any organization, provided they adequately cover the work; and the fewer members of any committee the better, with the same proviso.

The work so far accomplished by automobile clubs in this country has shown fairly clearly their reasonable coöperative limits of activity. This work covers:

(1) A Legislative Committee. Consideration of the laws regulating highway traffic.

(2) A Good Roads Committee. Attention to the highways, covering their construction and maintenance in good order.

(3) A Sign and Mapping Committee. Attention to mapping, measuring, and sign-posting highways.

(4) A Touring Accommodations Committee. Attention to conditions along the highways, viz., inspection, selection, and treaties with hotels, inns, garages, supply establishments and repair shops, etc.; selection of local representatives — usually lawyers — and the preparation of road books, including this and other proper information. These latter two would possibly do better combined.

These are the main common fields of coöperation and usefulness of motor clubs over their purely local areas, which do not concern State or interstate combinations.

Finally, each club could, with advantage, have an Interclub Relations Committee to carry on with other like clubs the work planned along the above lines.

If a common number of committees unite, a common set of functions for these committees, and a common name for these committees — which must necessarily coöperate all over the country to realize the best results to the movement — were universally adopted by the entire organization of automobilists, I believe it would go far to form the basis of more concerted and intelligent coöperation than would now be possible. Members would become familiar with the fields of work and the names under which these were designated — this all resulting in time in building up a better *esprit de corps* than now exists.

On another topic permit me to call your attention to the conference on the Conservation of National Resources, held at the White House in Washington, May 13th, to which the President of the United States invited seventy-one associations of national scope, interested broadly in the preservation of our resources, in addition to the conferees consisting of governors of States, and various officers of the government. Among the organizations honored by an invitation to this conference was the National Grange now conferring with us here. I believe that the interest which the A. A. A. takes in the construction and operation of the highway system of the country properly places it among the organizations now conferring with the government on the entire subject of the preservation of national resources. I believe it would be pertinent and proper for the A. A. A. to request admission to the number of those conferees, in order that it could coöperate on this important subject and give the National Conservation Commission information and data from time to time for the benefit of one great item in our national wealth. A suitable resolution by the A. A. A. showing their interest in the objects of the National Conservation Commission, forwarded to the United States Government, would very probably result in a cordial invitation to join in future conferences of this nature.

On the topic of the physical consideration of road surfaces there has been much enlightening debate about the injury done highways by high-powered and speedy motor cars, and this criticism, kindly and intelligent in its nature, has come largely from competent authorities, viz, our farmer friends. I have not heard any reference made by them, however, to the effect that narrow iron tires are not the best preservers of road surfaces. We all want good roads, we all want them to stay good, we do not want the nuisance of dust or the phenomenon which accompanies this nuisance, namely, undue road wear. We want to eliminate all these problems whether raised by motor cars or narrow-tired vehicles. In seeking for enlightenment on this subject it is natural to turn constantly to the old and good experience found in countries like England and France. If our farmer friends will hunt up the facts and experience and laws of highway use in those countries they will find that narrow tires on animal-drawn vehicles on those roads are quite as illegal there as the mile-a-minute motor cars are here, and justly so. Any just, equable, and broad legislation on this important subject of road use should not stop at the motor car in dealing with its speed and power and non-skid tires, but should extend to the horse-drawn vehicle in demanding a minimum tire width for any load and proportionate width in this tire as the load is increased, and a minimum diameter for iron-shod wheels, and some regulation for caulking horses' shoes (which certainly are injurious to road surfaces), not to speak of a demand for tail lamps on all vehicles.

A realization of these factors in the problem is a necessary premise to correct legislation on the whole subject. It will serve to bring out the fact that undue highway injury, whether from the speed and power of a soft motor tire, or too little surface and too great weight with unreasonable, small diameter for the metal-shod tire even at low speed, are equally undesirable and should equally be condemned. The further fact would be brought out that safety on the highway for the occupant of any vehicle, as well as for all other travelers on the highway, are prime necessities in properly regulated traffic.

If caulks from weather or road conditions are required for the safe passage of animal-drawn teams, even if this does produce some undue road wear, nevertheless, the good is superior to the evil involved and the rough shoe is permissible. Likewise, if weather and road conditions make the safe conduct of a motor car doubtful or impracticable without some friction device added to the rubber tire, such reasonable device should be permitted, whether or not it increases road wear, because, first of all, the passage of the vehicle should be controllable at all times. Roads must wear and must be used or they would not be built. The whole subject must be considered from the whole standpoint of the greatest good to the greatest number and equal privileges to all. If higher speeds and loads are best for the public, then they should be permitted and under conditions which would not cause undue injury to any concerned. If this programme requires higher charges in road construction and maintenance, this must be met and paid for by the people benefited, because the increased cost is less than the increased benefit. (Applause.)

CHAIRMAN TERRY:—I hope Mr. Evans will put in the form of a resolution the ideas about which he has been speaking and hand it to the Chairman so that it may be considered by the committee this evening.

We now pass to the subject of uniform State automobile legislation; and in that connection it has been deemed wise to give consideration first to what is probably the stoniest ground for a crop of fair laws that there is in the United States—I mean New Jersey—and I give you a man who has been a ceaseless worker for the right in that respect, a gallant captain of the army of reform in that State—Mr. Crosby, of New Jersey.

UNREASONABLE STATE LEGISLATIONBy **W. C. CROSBY**, of the New Jersey Automobile and Motor Club**GENTLEMEN OF THE CONVENTION:**

While perhaps it is with mixed feelings that you greet a representative of that State of New Jersey which has been characterized as the home of unreasonable State motor-vehicle legislation, yet let my first words to you be of greeting from the automobile fraternity of New Jersey. Let me with all sincerity extend to you gentlemen automobilists our best wishes in your efforts to benefit the automobilists generally by legislation and good roads, and to assure you that New Jersey automobilists are exceedingly well pleased that there are so few States in this great country of ours with such unreasonable laws as now are in effect in our State respecting automobiles. Our position is one of more or less shame that our condition is as it is, but at the same time we manfully, honestly, and sincerely assure our neighbors that we are fighting for better conditions and better laws. I will take pleasure a little later on in telling you just what we are doing and what we hope to do or accomplish during the next period of one year.

In the State of New Jersey most peculiar conditions exist. Being close to the metropolis, a very large proportion of her citizens earn their living in New York, read New York newspapers and are little interested in local or state affairs. In fact, the rich and fertile soil, the easy access to the market continue the farmer element as the controlling factor in New Jersey. While I believe that opposition by the farmer to the automobile is rapidly disappearing, yet conditions caused by the large summer populations on New Jersey's shore continue to create opposition by the abuse of privileges on the part of the rich and sporty element. These frolic and carouse and generally create opposition, but they are not the peaceable and law-abiding automobilists in our State.

It must be borne in mind that the State of New Jersey is not only wonderful in the possession of good roads but her mountain, shore, and inland resorts attract thousands of non-residents whose sole objective is pleasure — oftentimes with little regard to the other fellow.

Again, there is a most peculiar spirit in New Jersey, one of exclusiveness or opposition to the outside man or neighboring State citizen. Why this is so I must admit I fail to understand. Every real good reason prompts that New Jersey should gladly extend a hand of welcome to the visitor, and make him feel at home and secure his desire to come again — yet the fact is quite the reverse. New Jersey exacts heavy licenses and puts a law on her statute book that gives the country constable and country magistrate opportunities for graft that would make a Tweed smile. New Jersey's best interests are in making her State attractive to the visitor. Doing so would not merely mean spending of money in road houses, hotels, and summer resorts, but also the opening up of the State to desirable residents who will be won by its natural attractiveness and desire to live surrounded by nature's beauty so bountifully displayed.

Let me give you, as concisely as possible, some of the important features of our present unreasonable State motor vehicle law.

PART I. Deals with definitions.

PART II. Every automobile must carry a plainly audible signal trumpet. Every automobile must carry two lights visible 250 feet in front and one red light visible in the reverse direction. Front lamps must carry registration numbers. Automobiles of more than ten-horse power must have two brakes. Less than ten-horse power one brake. No tire chain shall be used upon gravel, macadam or other made roads except when covered with at least one inch of snow or ice. Vehicles must be provided with devices preventing excessive smoke or noise.

PART III. Places control in the hands of the secretary of state, whose assistant shall be commissioner, and fixes the latter's salary at \$1,500 per year. Gives power of appointment of inspectors and revocation of licenses. Authorizes licenses to be granted to persons sixteen years or over — on being satisfied of ability to operate. Further defines power and jurisdiction.

PART IV. Provides against operation of vehicles carrying other numbers and manner of registration, and dividing of automobiles

in three classes, three dollars for first class, five dollars for second class, and ten dollars for third class; the first class comprising vehicles of ten-horse power or less, the second from ten to thirty-horse power and, the third more than thirty-horse power. Provides that non-residents registering shall file with the secretary of state a duly executed instrument constituting the secretary of state and his successors in office their true and lawful attorney upon whom all original process in any action may be served, and agrees that such service shall have all the force and effect of personal service. Also provides that a person or corporation carrying passengers for hire may have a license for all his cars for the sum of one hundred dollars, not to exceed fifteen miles from ferry, and limited to fifteen machines at any one time within the State. Provides also for manufacturers or dealers licensing not more than five cars at five dollars per car. Distinctive license tags in all instances are provided by the State. Provides for drivers' licenses of two dollars for less than thirty-horse power and four dollars for thirty-horse power and over. No intoxicated person shall drive a motor vehicle without the consent of the owner.

PART V. Provides for license tags which shall be the registration number, the number of the car and the year, and initial N. J.

PART VI. Provides for the use of roads by motor vehicles, to keep to the right, to permit either whether met or overtaken to pass uninterrupted. Provides that the motor vehicle law of the State shall control excepting on speedways or in parks. No city or town or borough shall make any ordinance limiting the use or the speed of motor vehicles. No person shall drive in a race or on bet or wager. Any person causing an accident shall come to full stop and give name and addresses of male persons in his car on demand.

PART VII. Permits speed to one mile in seven minutes ($8\frac{1}{2}$) on sharp curves or when turning a corner, one mile in four minutes (15) at a junction or intersection or prominent crossroad in the open country where houses are more than 200 feet apart, one mile in five minutes (12). Through towns built up or where houses are less than 100 feet apart. Twenty miles an hour elsewhere.

PART VIII. Provides for proceedings. On complaint warrants issued by magistrates, or arrests without warrant may be made by police officers or constables.

PART IX. Provides for punishments and penalties.

PART X. Provides that moneys shall be accounted for and remitted to the commissioner of motor vehicles. In case for any reason any section or any provision of the act shall be questioned in any court and shall be held to be unconstitutional or invalid, the same shall not be held to affect any other provision or section of this act.

A senator elected from Somerset County is the man to whose tender mercies are consigned the automobile interests of the State by the governor. Indeed, he is looked up to by other members of the senate and house as an authority on automobile legislation. Yet this senator has a residence in the City of New York, lives there a great part of the time, is actively engaged in the insurance business and is an owner of two Pierce Arrow cars. Yet when argued to a standstill, this broad-minded gentleman exclaims: "Right or wrong, I will oppose you." Or when asked, why not make reasonable speed laws, says: "We want the law to stand as it is that we may catch Diamond Jim Brady and J. B. Duke." Or when asked and argued to extend a tourist privilege, however limited absolutely free, "We must remember our babies." What real connection there may be is left for your imagination. Yet this same senator presented three different amendments to the law during the one session, each voiding the former and in one amendment had a tourist privilege requiring a license fee of 50 cents for three days up to \$3.50 for twenty-four days with one renewal, and said he inserted it because I wanted a tourist privilege. I wanted a tourist privilege and still want one, but with no strings to it in form of fees or powers of attorney.

How does it work out? There is more graft practiced in the State than can well be accounted or imagined. The senator has stated in public that he never knowingly or willfully exceeded the speed of twenty miles an hour. I think we had better refer that to the Pierce Arrow people. Yet every honest user of an automobile knows that he

is a law-breaker and exceeds the limit in open country and the limit of eight and one-half miles is fully as ridiculous in crowded sections as twenty is in open country.

Again the making of an attorney for service of legal papers appeals to any fair-minded man as perfect folly and might work hardship on a non-resident as the chairman of our legislative committee well knows.

The most unfair, unreasonable and senseless of all our provisions is that taxing non-resident and making him pay for a car of thirty-horse power or more, no less than fourteen dollars, for, it may be, only the privilege of passing through the State.

After doing all we could by argument and representation, we feel that a fight in the courts is the only immediate course for us to pursue. To that end, we employed counsel to look up the whole law and see on what if any grounds we could attack the law. The gist of his opinion was not favorable. Of course, we did not go further with him, but immediately engaged another attorney for an opinion, and he tells us the law is unconstitutional in a number of its provisions.

We are now preparing test cases and enthusiastically carrying the matter through the courts in the hopes of getting some satisfactory lesson taught as well as obnoxious laws thrown out. It is perhaps unnecessary to say that we have been able to secure

Chairman Terry as associate counsel, and that he will coöperate with and assist in the preparation of the cases. We are also laying plans for a strenuous political campaign and we hope that by preparing a bill based on uniform state legislation provisions we can secure the pledged support of candidates for the senate and the house, and thereby with the autoists support secure through politics that which we have been denied in argument and representation. Many of the autoists of our State are willing to lay aside their political affiliations for the purposes of securing decent and fair legislation; and we are hoping now that that influence is going to be felt, and powerfully.

Federal legislation will accomplish much for the non-resident, but uniform legislation is the goal we should all strive to attain.

While I believe in uniform State legislation, yet I do believe that it is unwise for each State to adopt one law in toto. Fundamental principles of control should be the same as well as speed, tags, lights, the rules of the road and tourists' privileges. But the right to tour through the State should never be questioned. In my opinion a non-resident having conformed to the laws of his own State, has the right of passage through any State. Our laws should emphasize this principle, not take from a citizen what is his natural right. (Applause.)

CHAIRMAN TERRY:—A man who has the proud distinction of representing the State which first saw the light in automobile legislation, and in whose glory he had no small part, is Walter S. Schutz, of Connecticut, whom I am glad to introduce to you.

UNIFORM AUTOMOBILE LEGISLATION

By **WALTER S. SCHUTZ**, of Connecticut

I am proud to represent the State of Connecticut, for, although she is small, we believe that she has treated resident and non-resident motorists in the fairest manner which has yet been demonstrated. Therefore, I have prepared a few remarks on the subject of uniform automobile legislation, thinking that that at least was one of the best means of disposing of what are now the very unreasonable restrictions which are the law in other States.

With an act concerning the registration, use and speed of motor vehicles in force in nearly every one of our forty-six States, uniformity in the matter of automobile legislation seems almost too much to hope for, but an examination of the various statutes discloses less diversity than might naturally have been expected, and in the more recent enactments a tendency toward uniformity can be plainly seen.

The automobile is practically a twentieth

century product, and legislation began in most of the States with the first years of the century. Limitation of speed was the sole purpose of the earlier statutes, and a maximum rate of ten or fifteen miles per hour was prescribed. Very soon the matter of identification was seen to be of equal, if not greater, importance than speed; next the responsibility and control of the individual operator became the main object to be attained; and, in my opinion, the time is not far distant, if it has not come already, when revenue will be the chief, if not the sole, reason for automobile legislation.

Were it not for the damage done by motor vehicles to improved highways, I am confident that the common law rules, applicable to all users of public roads, would be amply sufficient to protect the rights of all parties. The question of road building and road maintenance certainly has a vital interest for all automobilists, and, therefore, the importance of such a convention as that now assembled under the auspices of the American Automobile Association can scarcely be overestimated.

State automobile laws, nevertheless, will be a necessary evil for several years to come, and it is, therefore, greatly to the interest of all users of motor vehicles that these laws be made as uniform as possible.

The automobile knows no State lines except, of course, the Chinese wall built by the State of New Jersey and a very few other barbarians. Four different States are often visited in a single day; and the motor vehicle has done more than any other one thing, unless it be the railroad, to break down the barriers between the various States.

Automobile laws, to be effective, must be simple and easy of enforcement; and, furthermore, they must be backed by public opinion; for no matter what was the attitude of the general public a few years ago toward the favored few who possessed motor vehicles, everyone to-day is, or would like to be, an owner. This greatly simplifies the problem.

I will ask you, then, to consider-with me briefly the model automobile law, and you will pardon me if, for the purpose of comparison, I refer most frequently to the present Connecticut law, as that is the one with which I am most familiar.

There are four principal points which the model law for present requirements must cover; (1) proper identification; (2) control of operators by revocable license; (3) speed provisions, which shall prevent and punish reckless driving, and which shall not depend upon traps for their enforcement; and (4) revenue.

IDENTIFICATION

The great majority of States now require each separate vehicle (except in the case of manufacturers or dealers) to be registered in the office of the Secretary of State or Highway Commissioner; and to display plates or markers with the registration number thereon upon both the front and rear of the vehicle; and the tendency is strong, in order to secure revenue, to require such registration annually.

For the sake of uniformity, it is desirable that the markers be furnished by the authority issuing the registration certificate, and as there are, unfortunately, a number of automobile owners who will sneak out of registration it seems necessary to require new markers annually, with the year of issue thereon, or of different colors. In Massachusetts the annual registration fee for all motor vehicles is five dollars, and the markers are furnished without extra charge. The secretary of the Massachusetts Highway Commission informs me that over 14,000 registration certificates have already been issued this year and that the estimated revenue from automobiles for the year will approximate \$150,000. This money, after defraying the expenses of the Automobile Department, is applied to the maintenance of State highways.

The registration fees in New Jersey, Ohio, Vermont, and Connecticut are based upon horse power, upon the theory that the higher powered car does greater damage to the highways. In Connecticut the rates are as follows: \$3 for a motor vehicle having a rating of less than twenty-horse power, \$5 for more than twenty and less than thirty-horse power, and \$10 for thirty-horse power or more; \$10 for each dealer's certificate and \$100 for each manufacturer's certificate.

The revenue for the first year from the Connecticut law will amount to \$50,000,

which will go far toward repairing the damage done by automobiles to the State highways. The registration fees in Ohio and Vermont are about the same as in Connecticut, but by the late amendment to the New Jersey law the rates in that State have been materially increased.

All of these statutes lose sight of the theory upon which license fees are imposed, namely, for the purpose of defraying the expense of regulating something which is inherently dangerous to the public; but so long as these fees are applied to improving the condition of the highways it would seem to me very inexpedient for automobilists to test the validity of the provisions on constitutional grounds.

So far as size of the numerals and display of the markers is concerned, the Connecticut provision (Section 4) would seem to cover all reasonable requirements. It prescribes that a marker furnished by the State shall be displayed "in a conspicuous place, *entirely unobscured*, and securely fastened," upon both the front and rear of the vehicle. Latitude is given to the State official who furnished the marker by providing that the letters and figures thereon shall be not less than four inches high and each stroke thereof not less than one-half inch wide. The words "entirely unobscured" do not admit of the marker being tucked away behind the trunk rack, or hung so low on the axle as to become immediately illegible because of dirt. Furthermore, the provision (Section 16) requiring each vehicle to carry after dark "a lamp so placed that it shall show a red light from the rear and a white light at the side, and so arranged as to illuminate the rear marker," practically necessitates placing this marker high enough so that it can be plainly seen, and so that the rear lamp will not jar out. Certain automobilists strenuously fought this provision before the committee of the Connecticut Legislature, claiming that it was impracticable, but experience has shown there is absolutely no difficulty in complying with the requirements if an honest effort is made to do so. If every owner of a motor vehicle will take pains to place his registration plates where he who walks may read, he will do much to eradicate such prejudice as still remains against automobilists, for the feel-

ing is a natural one that an owner who wishes to conceal his identity will also operate his car without regard to the rights of others.

The matter of identification of non-residents will be considered later.

LICENSING OF OPERATORS

The licensing of all operators of motor vehicles is required by the laws of Connecticut, Massachusetts, New Hampshire, New Jersey, Pennsylvania, Rhode Island, Vermont, and the District of Columbia, and in some States a distinction is made between private and professional operators. In New Jersey and a few other States a more or less rigid examination is required before the license is issued. My personal opinion is that these examinations avail nothing, and are only a needless expense to the State. Indeed, I believe that statistics will bear me out when I say that the great majority of accidents result from the reckless driving of experts rather than from the ignorance of novices. Again, I would make no distinction between private operators and professional chauffeurs. No reasonable person is going to engage a chauffeur until he is satisfied that the applicant can at least operate a car, and if the chauffeur's license is annual, while the amateur's is good until revoked, the owner will pay the fee in both cases. With a proper minimum age limit it would seem to me safe to license any applicant with the proviso that his license will be revoked if he proves himself in any way unworthy of the privilege granted.

The Hon. J. B. R. Smith, Commissioner of Motor Vehicles of New Jersey, whose sane views upon automobile legislation have won for him the respect of all motorists, says on this subject in one of his reports to the Legislature:

"This revocable feature, it is probably not too much to say, has produced the most salutary results of any feature of the law.

. . . We have endeavored to use it discreetly, and have permanently revoked only six drivers' licenses and only one vehicle registration; yet the constant fear of the loss of a license has, without doubt, been most beneficial. Drivers realize what such a loss would mean to them, and they are accordingly very jealous of their privi-

lege. There have been very few cases where our attention has been called to a second offense by the same driver."

An amendment to the Massachusetts law passed at the session which has just closed provides that the Massachusetts Highway Commission "may in its discretion and without a hearing suspend the license of any operator whenever it has reason to believe that he is an improper or incompetent person to operate an automobile, or is operating improperly or so as to endanger the public." This provision seems very drastic and it is safe to assume that this fair-minded commission would not resort to summary suspension unless the case were a flagrant one. Revocation and suspension of licenses are, however, quite often resorted to in Massachusetts, and the effect is most wholesome.

The present Connecticut law has been in force for ten months and thus far no revocations or requests for revocation have been made. Sections 7 and 9 of the law provide for operators' licenses and their revocation. Licenses must be renewed annually, and the operator must carry his license when operating. The Court before whom a final conviction shall be had of a violation of the speed provisions of the law shall indorse upon the license of the person convicted the date and particulars of such conviction. (Section 18.)

An unlicensed person, other than a person whose application has been refused or whose license has been suspended or revoked, may operate a motor vehicle if accompanied by a licensed operator, such licensed operator being also held personally liable for any violation of the speed provisions. The minimum age limit for a license is 18 years. It would seem that this could safely be changed to 16 years as provided in the recent Rhode Island enactment. (Section 7.)

SPEED REGULATION

It can scarcely be denied that the net result of enforcing the speed provisions of such State laws as prescribe arbitrary speed limits has been to swell the pockets of a few local officials without affording protection to the public or eliminating the "road-hog." Public sentiment is opposed to this modern form of highway robbery,

since, in nine cases out of ten, it is the harmless, though technical, violator of the law who is caught and fined, while the reckless dare-devil soon locates the trap and escapes the punishment which he so richly deserves. Each day it is becoming more apparent that the only true test of proper operation is whether the speed at the particular time and place is reasonable and safe, considering the width, traffic, and use of the highway and the danger to the public. While the soundness of this test is very generally recognized, the objection is made that if all limits are removed the unrestrained operator will abuse his privilege, and other users of the highways will be in constant danger. If this be true, a compromise similar to that adopted in Connecticut is the wisest course. Under the old law traps were maintained in several towns in that State and furnished a neat revenue to the local constables, but public opinion was against them and it was these very traps which made the passages of the new law possible.

Massachusetts was the first State to adopt, what for want of a better name, we may term the *prima facie* rule. After prescribing that every person operating a motor vehicle shall run it at a rate of speed at no time greater than is reasonable and proper, having reference to traffic and the safety of the public, the statute reads: "If the rate of speed of an automobile operated outside the thickly settled or business part of a city or town exceeds twenty miles an hour for the distance of one quarter of a mile, and within such thickly settled portion exceeds twelve miles an hour for the distance of one-eighth of a mile, or when approaching a crossing of intersecting ways or in going around a curve, exceeds eight miles per hour, such respective rates of speed shall be *prima facie* evidence that the person operating the vehicle is running it at a rate of speed greater than is reasonable and proper, having regard to traffic, and the use of the highway and the safety of the public. (Section 8.)

The meaning of such a provision is that if the speed within the stated limits exceeds the rates named the burden is upon the operator to show that he was not operating

his car improperly. It certainly is a vast improvement over the arbitrary speed provision, as it at least insures fair treatment to the motorist on appeal.

Unfortunately, Massachusetts still permits the adoption of local speed regulations by the town authorities upon compliance with certain formalities. That there is, however, a strong tendency toward the adoption of *recklessness* as the test in Massachusetts is seen from the 1906 amendment (Chapter 412, Section 4), which provides that whoever operates an automobile recklessly, or while under the influence of intoxicating liquor, or so as to endanger the lives or safety of the public, shall be punished by a fine not exceeding \$100 or by imprisonment for a term not exceeding six months.

Vermont was the next State to adopt the *prima facie* rule and in a more liberal form. The law of 1906 providing that "no motor vehicle shall be run in a careless or negligent manner. If a person runs a motor vehicle at a rate of speed exceeding twenty-five miles an hour outside a city or incorporated village, or at a rate of speed exceeding ten miles an hour within a city, incorporated village, or the thickly settled part of a town, it shall be *prima facie* evidence that the motor vehicle was run carelessly or negligently." Special regulations as to speed upon narrow and dangerous roads may, however, be made by local officials, but are subject to an appeal to the State Highway Commissioner.

Using the Massachusetts and Vermont statutes as the opening wedge, the automobilists of Connecticut endeavored to eliminate all arbitrary speed limits, and a bill, prepared and introduced at the request of the Hartford Automobile Club, was strenuously advocated at the last session of the General Assembly. A vigorous campaign of education was maintained throughout the session and practical demonstrations given to all members of the Legislature who were not personally familiar with the operation of motor vehicles in the hope of convincing them that arbitrary rates per hour were impracticable and unnecessarily hampered careful operators, while they did not serve to prevent reckless driving. The fight was at all times a fair and open one and success was practically complete when

the following compromise provision was accepted by the Committee on Roads, Bridges, and Rivers, and reported to the Senate. Here an amendment imposing arbitrary speed limits was only defeated by a narrow margin:

The provision as adopted reads: "No person shall operate a motor vehicle on the public highways of this State recklessly or at a rate of speed greater than is reasonable and proper, having regard to the width, traffic, and use of the highway, or so as to endanger property or the life or limb of any person. If the rate of speed of a motor vehicle operated on the public highways of this State exceeds twenty-five miles an hour for the distance of one-eighth of a mile, such rate of speed shall be *prima facie* evidence that the person operating such motor vehicle is operating the same at a rate of speed greater than is reasonable and proper, and in violation of the provisions of this section."

After its adoption by the Senate the bill passed the House without amendment by almost a unanimous vote. This was a signal triumph for Mr. Allerton, House Chairman of the Committee, and long a champion of the good roads movement, since the House is composed of two representatives from each town and, therefore, has a large majority of country members.

In addition to the provision above quoted, Sections 12 and 13 require that the speed shall be reduced upon approaching an animal driven in the highway or a crossing of intersecting ways, or a bridge, curve, or steep descent and that a timely signal shall be given with bell or horn at such dangerous places. The law also forbids the operation of a motor vehicle by a person when intoxicated or in a race or upon a wager. No local ordinances respecting the speed of motor vehicles are permitted.

That these speed provisions are adequate and easily enforceable is proven by the fact that convictions under the law have been secured without difficulty in cases where the manner of operation was improper, and reckless operators are better held in restraint under the new law than under the old arbitrary speed limit provisions. An abstract of each conviction is required to be filed within ten days in the Secretary of

State's office by the Court of Justice before whom the trial is had, and they are required to furnish details of all flagrant cases and may make recommendations to the Secretary as to the suspension or revocation of the license. (Section 9.) It is significant that in none of the reports filed has there been complaint of flagrant disregard of the rights of the public.

Within a few weeks our party was held up and fined on the Briarcliff Road in this grand old Empire State, at a point where there was not a house in sight, and where our speed — about twenty-five miles an hour — could not annoy or endanger anyone. To retaliate for what seemed an injustice we took pains to warn all automobilists of the trap; and on that particular Sunday the justice and his henchmen got only trouble for their pains. Contrast this with the Nutmeg State, where, by reason of the fact that all fees, fines, and penalties go to the State for highway maintenance, the ardor of the local constable has decidedly cooled, the traps have disappeared, and all right-minded automobilists are zealous to assist the police authorities in enforcing what they believe to be a fair and reasonable law.

NON-RESIDENTS

A very important feature of the model automobile law must be its fair and liberal treatment of non-residents. A great many of the present State laws, notably those of Illinois, Indiana, Maine, Michigan, Missouri, New York, Ohio, Washington, and Wisconsin exempt a non-resident from compliance, provided the car is registered under the law of the State in which the owner resides and the markers of that State are displayed. Other States, such as Delaware, Florida, and Massachusetts allow non-residents the privilege of their highways for limited periods varying from forty-eight hours to thirty days. A narrow-minded few — Maryland, New Jersey, North Carolina, Pennsylvania, Tennessee, Virginia, and West Virginia — require non-residents to comply with all the local provisions before they can enjoy, even for a day, the privilege of using the highways.

Such States as Connecticut and Rhode Island, which form main arteries of travel between two of our greatest cities, are in a

most trying position, for more damage is undoubtedly done to their roads by high-powered cars owned by non-residents than by the cars of their own citizens. To the credit of these States be it said, that the spirit of liberality has prevailed, and in Connecticut non-residents are admitted for a period of not to exceed ten successive days at any one time, and in Rhode Island for not more than twenty days in any calendar year. In both States non-residents must display the markers of the State in which the owner resides, *and none other*, and a non-resident who is convicted of violating any of the speed provisions must immediately comply with all the requirements of the law.

If all the States would agree upon provisions as liberal as those of Connecticut and Rhode Island there would be no ground for complaint.

REVENUE

The question of revenue has already been treated as incidental to the registration of motor vehicles and the licensing of operators. These registrations and license fees practically amount to special and double taxation upon automobiles, but the burden is one which, it seems to me, the automobilists can at present afford to bear, provided the money which he contributes is honestly expended in improving the highways, and provided he is not unjustly hampered in his use of them. A disposition, as shown in New Jersey, to increase these fees out of all due proportion should be vigorously combated by automobilists.

FUTURE LEGISLATION

With their constant increase in numbers the power of the automobilists to properly influence legislation is enormous. If the State automobile associations and the local clubs will work systematically to secure simple and uniform motor-vehicle laws, the remaining barriers between the States will soon fall away and petty and needless restrictions upon the proper operation of automobiles will disappear.

To this end let me suggest that our efforts be directed toward focusing the minds of the legislators upon the few really important features to be covered by the model automobile law. These, as I understand them, are:

(1) Proper identification of the vehicle, day and night, by means of annual registration and the display in a conspicuous manner of markers, furnished by the State and bearing the registration number thereon; the rear marker to be illuminated at night by a tail lamp so placed as to show a red light from the rear and to cast a white light upon the marker. The painting of the registration number upon the front lamps, as required by some State laws, is an absurd requirement as it accomplishes nothing.

(2) Control of the individual operator by means of a revocable license, the certificate to be carried by the licensee when operating, and upon which each conviction of a violation of the law shall be endorsed.

(3) Fees, for registration and licensing, which shall be fair, and which, together with all fines and penalties, shall belong to the State and shall be applied to the maintenance of improved highways under the direction of the State and not of the local officials.

(4) Speed provisions, which, in so far as possible, shall secure the safety of the public (any amount of legislation will not absolutely prevent accident or protect the heedless pedestrian against his own carelessness), and which shall not, by arbitrary speed provisions, unreasonably hamper the careful and considerate operator.

(5) Liberal provisions with regard to non-residents.

(6) Adequate penalties which shall punish reckless drivers, and a very few miscellaneous provisions with regard to lights, horns, and proceedings upon arrest.

Of primary importance to motorists are the provisions which the model motor vehicle law should *not* contain. These may be summed up as follows:

Local town and city ordinances and speed regulations, except possibly in the case of parks, should not be tolerated. Rules of the road and stopping in cases of accident should be embodied in a separate statute and should be hammered into and enforced against the driver of the farm wagon and

the coal cart just as much as in the case of the motorist.

Finally, the adoption of orders and rules regarding motor vehicles as is permitted to the Massachusetts Highway Commission should be discouraged, and the statutes themselves should be so simple and easily understood that it will not be necessary, as in the case of the present New Jersey law, to retain a Philadelphia lawyer to read its forty-three wordy sections and then guess at their proper meaning.

The time is certainly ripe for opening the uniformity campaign. The new law just passed by the Legislature of Rhode Island is plainly modeled after the Connecticut statute, except that the speed provisions suffered shipwreck. The Massachusetts Highway Commission has just been instructed to prepare, with the assistance of the attorney-general, a codification of the motor vehicle laws of that State and to suggest any changes which will render these laws more concise and intelligible; even the iron-hearted State of New Jersey shows some evidence of relenting since, by subdivision 3 of Section 16, it now permits "a person or corporation regularly engaged in the business of carrying passengers for hire in a State adjoining the State of New Jersey, and the conduct of which business shall require such automobile to enter the State of New Jersey for said purposes," to obtain a special license upon payment of the modest fee of \$100; furthermore, it may some day happen in the course of human events that Senator Frelinghusen will fail of reelection, and certainly there is hope for improvement so long as Commissioner Smith is spared.

Let the automobilists of the various States go before the legislatures of 1909 with a simple, rational, and uniform motor-vehicle law, and with the State associations pledged to a faithful compliance with the provisions of such a law if enacted, and I firmly believe that concerted effort can secure its passage in very many of our States. (Applause.)

CHAIRMAN TERRY:— The meeting is now open for ten minutes of discussion, in periods of two minute speeches each, on any of the topics covered by the last two papers.

W. W. BROWN, President of the Automobile Club of Vermont:— *Mr. Chairman and fellow delegates*, I have been very much interested in the remarks of the last speaker, as I was one of the Committee that drafted that Vermont bill, and I am very proud indeed to have it referred to as an opening wedge. When the Vermont Legislature convened the governor incorporated in his address advice to them that it might be necessary to restrict certain highways of the State from use by motor vehicles. Seventy-five per cent. of the legislators of Vermont were farmers. In the first two or three days over twenty bills were presented to that body. The Automobile Club of Vermont met the Committee to which those bills were referred, and I want to tell you just how we overcame all the opposition. In the first place, all our members went there and took the legislators to ride. Many of them had never been in cars. All enjoyed it. We got them accustomed to reasonable speeds on the road and then pulled them down to the State law until they got so crazy they begged of us to go on and break it. Then we made a record of the horses we met; we divided them into three classes, those that were terrified, those that noticed the machine, and those that paid no attention to it. I myself made several runs of hundreds of miles, taking with me witnesses. We found less than two per cent. of the horses terrified. I had statements prepared, signed before notaries, to this effect, all of which we submitted to this committee. The great claim in Vermont was that their narrow roads and the infrequency of the automobiles rendered the automobile a menace to the lives and happiness of the people, all of which we disproved.

Now, gentlemen, I know you are all anxious to get away, but I thought I would make these suggestions so that when the matter of new State legislation comes up you get your club members there and show them how automobiles can be driven twenty-five or thirty or even forty miles an hour, showing them that there is no special time or place where any speed is safe and that almost any speed is safe at some times and places.

Gentlemen, if you will all keep your eyes on little old Vermont, our Legislature meets again this fall, and we are going to have a better law than ever. (Applause.)

J. H. WOOD, of the New Jersey Automobile and Motor Club:— I believe that much good will be accomplished by conventions of this kind, and that there is as much to be accomplished by resolutions which may be introduced on the subjects which have been discussed as the discussion itself. I wish to present a resolution here which seems to have the endorsement of every speaker on the platform, and to be endorsed by all of you.

CHAIRMAN TERRY:— The effect of the rules previously adopted and to the effect that while the Committee on Resolutions will be glad to receive the suggestions of all of the gentlemen, there will not be time to read or consider them here, and, if agreeable to you, please draft your resolution and hand it to the presiding officer by whom it will be submitted to the Committee on Resolutions at its meeting this evening.

MR. WOOD:— Very well.

JAMES T. DROUGHT, Secretary of the Wisconsin State Automobile Association:— While I have not had an opportunity to hear all of the addresses this morning, I have had the good fortune to hear the last two speakers. I note with pleasure that the last speaker on the programme has mentioned Wisconsin as having liberal laws with reference to outside and non-resident automobilists.

There are two points that have been emphasized here that I personally wish to take issue with, with reference particularly to your uniform motor-vehicle laws, and I will leave it to your judgment when I am through whether I am right or wrong.

Mr. Schutz has emphasized, among the various propositions, identification, license of operators, speed regulations, and non-residents. The first proposition that I wish to call attention to is the question of the licensing of operators. In this I am myself somewhat in doubt, but I want to get, if I can, before I leave this Convention to-morrow night, the ideas of men in other sections of the country on that question, that I may be guided, and that we in Wisconsin may be guided, when we approach the Legislature of 1909. We had

in the past felt that there was no more reason why the driver of an automobile should be licensed than the driver of a horse-drawn vehicle. I realize that the automobile is a more or less complex mechanism and requires certain experience before it can be handled. On the other hand, the average individual can learn with a few lessons how to start and stop that automobile and make it go at various speeds, and the essential thing to become a good driver is road experience. A good horseman can readily become an automobile driver. Now, the answer probably to this question is that the automobile is capable in the hands of a reckless driver of being run at a speed with danger for the general public, and for that reason the operator ought to be licensed; that every time he goes down the street he is taking the lives of the public in his hands by driving an automobile. If that is the correct idea, all well and good, he ought to be licensed. On the other hand — and this point comes in connection with the point of revenue upon which I wish to speak for a minute — on the other hand there has been a disposition on the part of the automobilists of the United States to submit gracefully to this idea of a license.

I do not believe personally that the theory upon which the registration fee should be based is one of revenue. The object of registering an automobile, as I understand it, is for police regulation, to provide a method of identification of that particular machine, and not for the purpose of revenue; and if you allow this thing to go on, and allow it to be fashionable all over the United States, you will all of you be paying an annual license fee which is going to creep up and up — and you have simply encouraged it. We in Wisconsin have fought those propositions. The Wisconsin law to-day is probably as simple as that of any State. It provides one dollar for the initial registration of a machine. The machine once registered is always registered. It provides fifty cents for the transfer in case it is sold. The law also provides a three-inch number; speeds from twelve to twenty-five miles an hour; and the provincialism of stopping on signal. We do not object to that. The law of Wisconsin has not been changed substantially in any of its particulars since first adopted in 1905. We do not believe in Wisconsin in this annual fee. It certainly is a hold-up game. You have complied with the regulation by having your machine registered. For the purpose of identification in connection with accidents, that machine is registered, and they know where to find you. Then, why should we allow the right to be taken away from us. We have the right to travel on this road or that street just as much as the man with the horse-drawn vehicle, and I want to know why we should submit and allow a vested right to slip away from us by submitting to an annual license fee arbitrarily fixed and entirely out of reason.

MR. A. R. PARDINGTON, of New York: — I would like to ask Congressman Cocks one question. It appears to me the federal registration bill is the most vital matter to our members to-day. I want to ask what work we can do with that committee which will be the most influential with the committee — whether by letter, personal appearance in Washington, or personal work with the representatives. There must be some one thing that will impress every member of the Judiciary Committee in Washington. What is that one thing, that we may concentrate our effort on that, and hold up your hands and show the committee that we want what we want when we want it.

MR. COCKS: — Submit to them the opinions of as many able lawyers as you possibly can, to the individual members of that committee. They care more for that than for anything else. Men that are well-known and versed in constitutional law. There are certain people in the United States who have great reputations as constitutional lawyers. Their opinions are in my judgment worth more just now than anything else.

CHAIRMAN TERRY: — With Congressman Cocks' permission I will supplement his answer. Pending the short session of Congress, automobilists in the sections where the members of the Judiciary Committee of the House of Representatives live should take up with their member, their particular member, the constitutional question and find out what objection he has on constitutional grounds to the bill; and more, answer it, because it can be answered. If they haven't any answer, it is because they haven't studied the question, and if they haven't studied the question they should go back to Congress.

W. S. GILBERT, of the Cleveland Automobile Club:— I am glad to see the interest taken in good roads and uniform legislation by so many of the Grange element of the country. I am not personally acquainted with many of the members, but I am told by one of the speakers that a great number are here. It has been my privilege for the days since the beginning of the automobile to ride in automobiles on the roads. In listening to the various addresses that have been made here to-day it occurs to me that the subject hinges largely on the question of fairness to both the automobilists on the part of the farmers and fairness by the automobilists to the farmers. We are told, as some of us knew, that the first restrictive legislation against the automobile was inspired by the neglect of common courtesy on the road by the automobilists. It is the thing to-day which inspires all of the adverse legislation. I have ridden a great deal from New York to Chicago, and about. I have ridden in our own locality on long and short runs. I must say that I have almost never been out in the country — and I have generally been with men who were classed as gentlemen — but that they would commit a breach of common courtesy against the users of horse vehicles and pedestrians. Now, I am willing to say to you that ninety per cent. of them do it thoughtlessly. But considerate treatment of other users of the highway is the one thing that will make possible uniform State legislation that will be at least fair to the motorist, and that is all that the motorist can ask for. In every State in the Union the motorists are in the minority, and for legislation to-day are dependent on non-users, and the sooner they recognize that, and the sooner the automobile clubs uniformly start a campaign cry that it is not the criminal, it is not the boor that is doing the damage, it is members of their own clubs, who are classed as gentlemen, who do it thoughtlessly — the sooner this is recognized the sooner the day of sane legislation.

The State of Ohio secured a State automobile law from this last Legislature. It is considered a very fair one. It is copied a good deal after Connecticut's law. We haven't had it in operation a month yet, so we cannot tell how it suits. But there was a great cry for restrictive legislation. We told the State motorists to get to work. We told them they must get to work. It wasn't whether they wanted a law to suit them or whether they wanted any law at all, but that there would be a law passed that would be very onerous, and they did get to work.

I want to say a word on another point. One of the speakers mentioned the fact that motorists do not attend meetings of their own clubs. You may say that of almost any organization in the country; unless they are handled by men who have the get up and get them. This National Convention is the first one of its kind; I think for a first one it is a very great success. I want to suggest to the National Association that it can do a thorough work by getting every club in every locality to work along the line which it may mark out. I know in our own club, and I believe it is the same in the other clubs, we get a report sent to the club from the National Association. I know that our secretary is willing to be suggested to, he is willing to be told what to do to arouse the interest of his members. Our club of seven hundred members pay their dues; once in a while they go to headquarters and eat. They are open to being brought into the work.

Now, the automobile is the coming method of transportation, and the automobilists, although in the minority of citizens and voters, must lead the fight for fair laws, and in making that fight the key-note is fair road rules and fair treatment of the countrymen. The automobile has brought the countrymen closer to you than before. He is your brother. You cannot get out of the automobile and walk to the hotel with your nose in the air. It is those thoughtless ways that do more damage than actual carelessness.

GEORGE B. ELLIS, of the Automobile Club of Southern California:— Five days ago I had no expectation of being here, but after four days of heat and dust, traveling in a conveyance that was not stopped at the borders of different States and that required no license I have arrived here. I had the day before I left prepared a few remarks, but as the time is growing short and you all seem anxious for your lunch, I will make my remarks very brief.

In 1900 we organized the Automobile Club of Southern California and admitted automo-

bilists only to membership. For two years our number did not seem to increase. Our initiation fee was \$25. We found that in order to accomplish the objects which we had in view that we would have to change our plan of organization. This we did and made our initiation fee \$5 and our dues \$6 a year, since which time we have grown to over a thousand members and have accomplished a great deal in the way of uniform State legislation and good roads, expending over \$20,000 during that time.

Coming to this question of legislation, while we had on the statute books of California a law making the speed on the common highways twenty miles an hour and in the cities fifteen miles an hour and in the crowded portions of a city eight miles an hour, yet, through the influence of the members of the club, we have changed that so that we now have in Southern California a uniform speed of twenty-five miles an hour, and twelve miles in the crowded sections. This we believe was accomplished through the activity of the members of the automobile club. We believe, if you want to get uniform legislation all over the United States, that you will do it only by getting interested in your automobile club not only people who own automobiles, but merchants and everyone who is interested in good roads and in the success of the community. (Applause.)

CHAIRMAN TERRY: — It is very interesting, gentlemen, to hear from a club so far distant, and also from a club the proportions of which we had not guessed — a thousand members — making it the third largest in size in the association.

MR. ELLIS: — I want to correct your impression, all those people are not members of the Automobile Club in Southern California, but are members of clubs that we have organized and which are affiliated with us in what we are doing.

MR. PIKE CAMPBELL, President of the Louisville (Ky.) Automobile Club: — I am very much interested in the remarks of my friend from Vermont. Last winter a bill was introduced in Kentucky something similar to the one that was passed in England, when the automobile was first used, which required that an automobile should come down to six miles an hour and must have a man in advance of that with a flag warning you that it was coming. The automobile club of which I am president invited all of the members of the Legislature to attend a meeting of the club, and, incidentally, partake of its hospitality. We held a banquet at our swellest hotel and invited all of the legislators to attend, and I think every one of them must have been there except the man who introduced the bill. Before the banquet we invited them all out for a ride and we spent the afternoon in riding around the city and county in automobiles, and I noticed those in our car couldn't go fast enough; they wanted to see how fast the machine would go. The one I happened to be in was a thirty-five horse power car, and he wanted to see if we couldn't make forty with it. We gave him the limit of the power, and he said, "I don't blame you people for wanting to cut out the speed limit." We have a speed limit in Kentucky of twenty miles an hour, and in passing through the villages it is eight miles an hour.

I was also very much interested in Mr. Terry's paper. I think it would be a good idea if Mr. Terry would get the American Automobile Association to have a number of copies of his address printed and have the association address all the presidents of the automobile clubs of the United States, asking them how many of the copies they would take and pay for them and these automobile clubs distribute them amongst the automobile owners of the cities. I think a copy of the proposed law which we expect to get through Congress should accompany it.

CHAIRMAN TERRY: — It is time for our adjournment.

A recess was then taken until 2 P. M.

FIRST GOOD ROADS SESSION

AFTERNOON PROCEEDINGS OF TUESDAY, JULY 7, 1908

PRESIDENT HOTCHKISS: — Will the Convention please come to order.

It is with deep regret that the National Committee in charge is compelled to announce that Robert P. Hooper of Philadelphia, chairman of the Good Roads Board of the American Automobile Association, cannot be present to-day or to-morrow. He reached Buffalo, but was called home by the death of his father. At his request, and in his absence, I read you what he had prepared to say at the opening of this, the first session devoted to the subject of good roads.

OPENING ADDRESS

By ROBERT P. HOOPER, of Pennsylvania

In opening this First National Good Roads Convention at which these three great bodies, the American Automobile Association, the American Road Makers Association, and the National Grange, are coöperating, it is not my intention to make a long speech. We have much to come hereafter that will be more interesting to you.

We have called this Convention for several purposes: the first, and most important, is to secure uniform action on the part of all the bodies now working for the good cause. We do not mean necessarily that there should be one great association, but that there should undoubtedly be a great central committee which will, in a way, have some jurisdiction over the field in which the great national bodies are working. You all appreciate the fact that it is impossible for such a great movement to be carried on successfully unless there are at least three great factors working along the same line; first, there must be an organizing body; second, there must be an association of practical men to take charge of the work as it is presented to them; third, there must be that great body of American citizens to aid us, they who use the roads most — and without whose help we could not build them — the farmers.

Heretofore, every action on the part of the American Automobile Association toward the good roads movement has been somewhat misconstrued; but I say to you, gentlemen, as you all well know, that the automobile has come to stay. You must, therefore, appreciate the fact that we are working, not for selfish motives, but entirely in an effort to help along a public cause.

Our Association is willing to give its time and throw its entire energies toward building up and helping along organized work. It is, however, impossible for us, owing to the absolute lack of practical knowledge, to take any other step. On the other hand, the American Road Makers Association, including, as it does, many of the best known engineers in the country, is better able to push the actual work of construction than any other body.

In the early days of automobiling, owing to the thoughtlessness and at other times criminal disregard of the rights of others, the rural population to a man became antagonistic at even the mention of the automobile. It has taken us a long time to overcome this feeling, and convince the farmer that we do not stand for anyone driving an automobile on a public road unless he, in turn, even more than recognizes the rights of others.

I believe, however, you will all feel, as we do, that in securing the coöperation of the National Grange, we have removed the last barrier to the active coöperation of these three great bodies in a cause in which each is vitally interested. The alliance here formed will ultimately give to this country a system of roads greater and better than any in the whole world. (Applause.)

PRESIDENT HOTCHKISS: — In Mr. Hooper's absence, by action of the National Committee at its meeting last evening, I introduce as Chairman of this afternoon's session the Hon. James H. MacDonald, President of the American Road Makers' Association,

and Highway Commissioner for the State of Connecticut. He will also make the principal address of the afternoon.

GOOD ROADS

By the Hon. JAMES H. MacDONALD, Highway Commissioner
for the State of Connecticut

MR. PRESIDENT, BROTHER PATRONS, MEMBERS OF THE AMERICAN AUTOMOBILE ASSOCIATION: — I crave your indulgence while I commit a seeming discourtesy in taking off my coat. The warmth of the reception by the people of the city of Buffalo, and this Club, has been too much for me. (Laughter.)

Thirty-one years ago I left this State — the State that gave me birth — a State that I have never ceased to love, and I feel that I owe this State very much, and as a little tribute of that continued love and affection I have never as yet failed to accept an invitation to come over into this State and preach the gospel of good roads. I hardly dare take up this very great subject which is assigned me. I am a little afraid of meeting with about the same experience that one of our western men met with in a hotel.

After having played cards with a friend and having got a little inebriated holding the stakes, he grew very courageous, and he said, "I can lick any man in the Eagle Hotel." There was no answer. He said, "I can lick any man in Cook County." Still silence. Then emboldened, he said, "I can lick any man in Illinois." Immediately a great, husky young fellow sprung up, struck him and knocked him down. And when he rose up, he rubbed his head and said: "Say, I think I covered too much territory." So I do not propose, this afternoon, to get in that position — covering too much territory.

As I came along through the old, familiar scenes to this meeting place, memories came trooping thick and fast, as I remembered my childhood days and the happy hours I had spent in my youth and early manhood; and as I looked out of the car windows, coming up through the Mohawk Valley, that old, familiar verse came to me:

"Green hills of Tyrol, again I see
The home of childhood so dear to me.
Once more I press its verdant shades
Where oft in childhood I wildly strayed."

It is a delightful privilege for me to come here and be a part of this great Convention; great, because it means so much, not only to the people of this State, but to the people of the United States. I think very few people conceive of the importance of this great question of highway improvement, especially so in these latter days.

It is astonishing when we comprehend, or contemplate, what our country has grown to. From five millions of people one hundred and seven years ago, to eighty-five millions of people; eight hundred and twenty-seven thousand square miles to three million square miles; from sixteen to forty-six States and five Territories, according to Brother Page's record — and no man in this country has paid more attention to accurate details than our present Chief of the Bureau of Highways from the Department of Agriculture, L. W. Page, who, I am happy to say, is with us to-day.

We have in this great country to-day 2,500,000 miles of roads, and, classified as improved roads, only 135,000 — about seven per cent. of that entire great mileage. And placed in the hands of forty-two men are 850,000 miles of those roads; and I say frankly, gentlemen, and I speak from intimate personal acquaintance with the matter — that if those forty-two men were removed from their official places to-day, I do not know where we could replace them. What this country wants to-day is road builders. I do not mean men who have learned the theory of road building, but practical road builders who can take a dollar and make it go just as far as it is possible for that dollar to go, and yet, in the expenditure of that dollar to get every cent in value for the money.

In the State of Connecticut — and God knows it is not the wealthiest or most populous State, nor has it had the largest opportunity for the acquirement of wealth — from the day

we first made an appropriation of \$75,000 for the first year down to the time when that little State came up loyally in its interest for highway improvement, intelligently understanding the necessity for the roads to be improved, and made an appropriation of \$4,500,000. I have not heard a single objection from my people to any appropriation made towards the betterment of our highway system. I do not find it is a question of money anywhere in the United States, for we have been spending money enough to have built every main highway in this country and made them all splendid roads for 365 days in the year, if that money had been intelligently expended.

Referring to the splendid roads on the other side, alluded to this morning, and which have been the admiration of the world for their grandeur, smooth condition, and durability, my friend Page told me, not five minutes before I came on the platform, that they are sending over from France to-day inquiring what they shall do, after having expended six hundred millions of dollars on twenty-four thousand miles of road, by reason of the fact that since the introduction of the automobile, if something is not done to remedy the havoc that is being wrought by the automobile, they will lose the entire principal.

With all the education commissioners have had, with all the experience we have gained both in a personal way by research, investigation, and reading, every commissioner in this country to-day is confronted with this great problem of what we are to do with the roads that we have in our charge.

East of the Mississippi River the largest proportion of the improved roads has been built. West of the Mississippi River they haven't gone into this question of putting down stone roads to the extent that we have in the East, so the Mississippi River divides this question, gentlemen. East of the Mississippi River we are enquiring what we shall do with the roads that have been built — to preserve and protect them against destruction. West of the Mississippi River they are asking, "How shall we build our roads?" That is the great problem confronting every commissioner — yes, and every man in the country, because it is a fire-side question that sits down in the home of everyone.

Just think of the money that has been wasted in this country from lack of knowledge! I understand you have an exhibition of preservatives here in Buffalo to-day to show us how to take care of the macadam road after it is constructed — a vital question to this great State of New York — yes, and to the country at large, just at this time — with the splendid appropriation you have here in New York State, starting out, as you are, under the best law you have ever had for highway improvement. And I do not think I would be just to myself or to this audience if I did not give full measure of credit at this time and in this place, and as the official head of the American Road Makers' Association, to say that it was principally brought about through the indefatigable effort, careful research, and investigation of the Senator from the Twenty-seventh, Jotham P. Allds.

So it is a vital question, as you enter upon this great and extended system that you have just inaugurated, or are beginning to inaugurate, how you shall keep these roads after you have constructed them. In my judgment, gentlemen, when you are through with all of your investigation, and when you have tried out everything that has been presented to you for the care and maintenance of a macadam road, you will come down to the simple proposition of putting God's best gift — water — on the road. Nothing, in my judgment, will protect a macadam road, will give it life, will give it elasticity, will insure its continuance, like pure water. Ah, but you say, "We cannot afford to put on water." Well, then, in my judgment you will never have a satisfactory solution of this question, although we will continue to use oil, tar, and preservatives of all kind for the reason that they are cheaper, apparently.

We hear a great deal said about national aid. Perhaps I should say something in relation to this matter at this time. I am a great believer in that doctrine of my namesake, George MacDonald, that "self help is the best help." I do not believe it would be a wise policy for this country to allow States to indiscriminately put their hands into the treasury of the United States, in obedience to any demand from any class of men, to make a political jackpot of the treasury of the United States in an indiscriminate passing round of the

public purse in that kind of a way. Our Association doesn't stand for that. Our Association, of which I am the president, stands for State aid. Let the State, in its sovereign right, occupy its privilege of taking care of her own interests under some definite and intelligent plan first before assistance from the outside is extended — not only in good roads but in everything else.

Now, what would I do if it was placed as a proposition to me in so far as the national government is concerned? I have no use for a coward on the platform or off of it. To make a mistake is excusable; to be a hypocrite is a crime. What I would do would be this: I believe it is just as incumbent on the United States Congress to establish in this country a system of national highways for military uses for the purpose of mobilizing the army, as to assume the obligations it has in a thousand other directions. I believe there should be a national highway along the Atlantic Ocean and another on the Pacific Coast, from Los Angeles to Seattle, for twelve hundred miles; also another skirting the Gulf States and another below the lakes on the north, all joined and connected — a continuous, unbroken chain. I am also convinced that when we started that system of national highways, running thirteen miles through Maryland, eighty miles through Pennsylvania, thirteen miles through West Virginia, 240 miles through Ohio, 170 miles through Indiana, and 176 miles through Illinois, that we stopped too early, and, as a great wave going up against a rock is checked in its progress, so I believe this nation was retarded in its growth by reason of the fact that the great highway stopped there. It should have gone on.

I believe that for military protection these national highways should be built by the United States Government, but under a system and under the surveillance of the United States Government, by their own engineers, and that those roads should be built so they would circle this glorious privilege that we enjoy to-day, and say for all time that our people are ready to protect Old Glory. (Applause.)

This country has some great propositions before it, in my judgment. One is irrigation; another is internal waterways; and another is good roads, not only in their construction, but also in maintaining them, which would result in increased comfort and convenience to our people and would add to the reputation of our country by so doing. So I say about the States. You go abroad to see the Alps; you see the lakes and other objects of interest in the Old World; you come back and talk about the beauties of other lands and seemingly forget what we have here in America. I stood in Washington and looked out at the snow-capped mountain, Ranier, the sunlight gleaming on it and the streams running down from its snow-capped summit. I have seen Mount Olympia and Mount Baker, Mount Whitney in California, and Mount Massive in Colorado — grand sights. Any man who ever went to the Grand Canyon in Arizona must have stood in awe before its splendor and coloring, and as he viewed its beautiful, changing lights and shadows, truly he must have felt that God had dropped his palette there. It is a beautiful scene. No place in this world has more beautiful objects of interest to present than have the Grand Canyon and the Yellowstone Park; your magnificent palisades here on the Hudson — little spoken about and yet deserving of the highest mention — also your own Lake George and Niagara Falls — glorious and magnificent! And so I could go on and name our Green Mountains, our White Mountains, our Sierra Nevadas, our Cascades, and a thousand and one objects of interest. There is no place on God's footstool where can be found a more beautiful panorama than we have in this country. And if we have this splendid system of highways built throughout the country by the nation, we would accomplish a great deal more, in my judgment, than in trying to build up a system of highways with national money without a system well planned. It is the only way to intelligently disburse that money. I have always held to this principle in my own State — and we practice it — that the point of contact should be very close to the taxpayer's dollar and the man who expends it. There should be no intermediary between the two, but, on the contrary, a fixed and definite responsibility should be placed, and no opportunity should be accorded to sidestep.

Perhaps I ought to say in this connection — I do not want to become tiresome, but I do want to extend to you a few thoughts along that line — first, the nation should build

a system of national highways, and, second, every State in the Union should have, with the travel that is had upon our highways, a system of main highways built and maintained solely and exclusively, without any contribution on the part of any town or any abutting owner's property through which that road goes, with State money. Our roads have ceased to be a local matter; they belong to the public. It is an impossibility, gentlemen, for us to maintain these highways and ask these little towns to contribute of their hard-earned means to do so; and if God spares my life until the next Legislature convenes I shall ask that certain main highways in my State be assumed as a State obligation, to be built and maintained entirely out of the State treasury. (Applause.) And then the towns will have enough to do. We might just as well meet this question to-day; there is no better time; there is no better place to meet it than right here.

Through the courtesy and the permission of the State of Connecticut I have an auto in my work. I suppose, in its possession, I occupy just about the same position as does a man when he first becomes a grandparent. He is always looking about for some ingenious way to relate the fact. And with that automobile — I want you all to know I have an automobile — since the first of last June I have traveled mile for pound in my State work as highway commissioner. The automobile weighs thirty-six hundred pounds.

A MEMBER: What is the name of the car?

MR. MACDONALD: I hardly think it would be fair to name the car, although I think some gentleman, in his address this morning, named a car of home manufacture. Am I right? (A voice from the audience answered, "Yes, a Pierce-Arrow. They are manufactured here.") Well, it is a Pope-Hartford that I use. (Laughter and applause.) And I have traveled thirty-six hundred miles in that car and it weighs thirty-six hundred pounds. This is a mile for a pound, and it is doing splendid work. And there never was anything, as was rightly said this morning, that will annihilate space and save time to a greater extent than an automobile — when it is going. (Laughter.)

Now, I have no doubt but that Brother Terry meant every word he said this morning. I have known him for some time. I have known him to be a conscientious, truthful gentleman. But the difficulty is that when Brother Terry was talking about those stringent laws in other States, he was talking from the standpoint of the gentleman who uses the automobile. He was not looking at it from the standpoint of the hog that uses the automobile. (Applause.)

There never was a law passed in this country, gentlemen, in my judgment, that was aimed at the gentleman in an automobile. And I want to tell you something along that line of thought. Gentlemen who ride in a car pay to the State of Connecticut three dollars for cars under twenty-horse power; five dollars for cars from twenty to thirty-horse power; over thirty-horse power, ten dollars. And they pay all the fines over into the State treasury. The license money all comes in and they turn it over to your humble servant to repair these roads with — and it is doing splendid work. Now, any non-resident who uses an automobile can come into the State of Connecticut, ride over any road we have, free and unmolested, and he doesn't have to pay anything. And since the passage of that law (and I speak as Highway Commissioner) we have had fewer accidents and fewer complaints from over-speeding than I had ever known since automobiles first came into use. But now I will show you just how that acts the other way when the other fellow comes in.

A gentleman came into our State the other day — and we were using the money that the resident owners of autos had contributed into the State treasury for repairing the roads (our citizens' automobile money!) — this gentleman from another State, who was invited in through courtesy, refused to wait until a load of gravel was spread, but rode rough-shod over the stakes and lines that were being used in the construction. I happened along two hours afterwards and that selectman said:

"Commissioner, now we are going to put that speed limit on. We haven't done it. If that is the way those fellows do, we are going to keep them within the time limit."

Every man within the State who uses an automobile has had to suffer for that man's carelessness, or, to say the least, indiscretion. Now, that is what makes enemies for gen-

tlemen who use the automobile. I have watched my own speedometer — as have other gentlemen who use the automobile — and I have reached this conclusion, prayerfully: That the only speed limit law any man who owns or uses an automobile will observe is the speed limit law of the motor he is sitting behind. (Laughter.) And, if you noticed, I prefaced that remark by saying I had watched my own speedometer.

Now, this is a fact in my own State: There have been fewer arrests than ever before; there have been fewer fines paid, and it has cost our resident owners of automobiles less money since we passed that splendid and liberal automobile law than ever before. And the gentlemen who are organized under the capable leadership of President Fuller in that State, every one of those clubs is policing the State, and when they go to my friend, Schutz, after he sends a postal to them when they have been overspeeding, he tells them, "Now, you have been overspeeding. Our club will protect you within the law, but you must not do that again." The result is, we are having a very close observance of the speed law, and the liberal law, as Brother Terry said, is one, in my judgment, that will bring about a closer observance of the law than would a rigid one.

Perhaps I ought to say in that connection, while I am dwelling on the automobile question, that they have a practical way of doing things in Springfield, which it would be well to copy. When they have a road that goes through a poor little town, and they want to use it as a main highway, recognizing the poverty of the town and desiring in a practical way to assist them, they go out and collect money. Several hotels have contributed; members of the Springfield Club have contributed — sometimes as high as a thousand dollars — and they have turnpiked that road and rounded it up and made it a splendid road to travel over. Brother Weeks wrote me from Pennsylvania, the other day, that that is what they are doing down there. It doesn't cost much to contribute the little portion that a town has to pay, and you get the return. I never knew any class of men who were more liberal than the gentlemen who ride in the auto, nor men who give up their money more freely, — and I have met a whole lot of them, — and I say this is a practical way to work out that suggestion.

In the care-taking of roads, gentlemen who use the automobile can help out a great deal. It isn't necessary to travel in the same old rut and accentuate it. It is just as easy to straddle it. You are making a rod to whip yourself when you do it. You can assist in a great many ways to continue the road. And when a newly-built macadam road presents itself, do not open the throttle and go ahead at fifty or sixty miles an hour. That road is just going through its seasoning process and it hurts it to burn it out. If you want a splendid road to continue for years, treat it kindly. No amount of work or water will bring that road into the condition the old roads are in, until it gets the seasoning process of use.

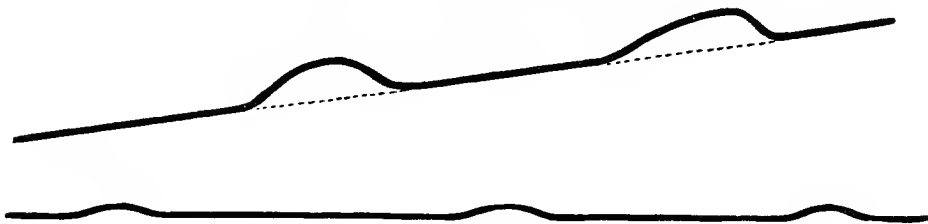
I have noticed another thing, gentlemen, in connection with the travel since the extension of the trolley line system, and that is, we do not have as much light carriage driving. We see more of the automobile driving, even on our main highways. And a road, to be at its best and continue in a pleasant, safe, and firm condition, must have mixed travel, or else you have got to build a road like Brother Pardington is building on Long Island — a rigid road. It needs mixed travel to bring the road up to the condition that it will resist the onset and the travel of the automobile. Outside of the question of watering, you have got to resort to oil, coal tar, and all other expedients. The people do not want to spend a large amount of money, no matter if they see that oiling is cheaper. And so we go on experimenting with the different kinds of oil, and different methods, until some day we will wake up and acknowledge that it is all wrong. But I make this prediction, that when the National Government builds her main highways — as she will, and when the States in the Union build their main highways — as they will have to, then this stress will not be so great, nor will the clamor for highway improvement be quite so zealous as it is to-day, because, as the good book says, every man who rides in an automobile "will awake and be satisfied."

I have a few suggestions in road building that perhaps I might indicate. There was a

question with me whether I should take up the matter of technical construction, but a gentleman down at the hotel said he had come a long distance and he wanted to learn something about road building, in a practical way, and he hoped he would have such an opportunity. So, with your permission, I will speak briefly of the methods I employ in my own State, and, with this apology, it is what I am using myself. I do not claim it is the better way, but it is the best way I have found to build my roads in Connecticut. You all know that conditions change in every State. Conditions change in towns. So that I do not lay this method down as the standard construction, but only as what I am doing myself in the State of Connecticut. You perhaps might have had an idea that I was building a splendid system of macadam roads only, and that anything I might say here would be practically valueless to towns who had not inaugurated a macadam system. I want to tell you that we build all kinds of roads, and some of the best roads in the State of Connecticut have not as yet had a stone put on them — simply drained, grades reduced and all unnecessary curves taken out or modified.

(The speaker here introduced a number of charts illustrating practical suggestions in road building.)

WATER BREAKS



WARTS — How Made.

The first illustration I desire to call your attention to is very plainly indicated by these black marks which appear on the white ground.

Gentlemen, the users of the automobile, yes and those who use the horse-drawn vehicles, have met with these grade breaks, or what are commonly termed thank-ye-ma'ams, on many roads. I have never been in favor of these unnecessary adornments on our roads, and have never built one. In fact, I never will build one. If the grade indicated on this chart, in its natural run, is seven per cent., when the poor old horse comes up to the point where there is one of these thank-ye-ma'ams, the fact of its being there is very liable to increase that grade from seven per cent. to perhaps twenty per cent. So I have described these unnatural monstrosities on our roads as "graves for horses." They are of no use. There is only one way to lay a thank-ye-ma'am, or grade break, on any road, and that is lengthwise with the road. (Laughter.)

You will notice on this chart, just below the thank-ye-ma'am, there is a line drawn showing little mounds at frequent intervals. I call them Indian mounds. I have seen miles of roads with these little upheavals on them, and I have christened them ripples. On many of our roads I have found about as many of these ripples as there are in the ordinary politician's conscience. Now, the natural inquiry will be, "How do these occur?" Now, this is practical road building. These occur through those persons repairing the road dumping a load of gravel in a mud hole either from between the reaches of the wagon, or, if a dump cart is used, at the end of the cart. After the load has been dumped into the hole, the men proceed to knock the head off that little pile of gravel that has fallen on the road. In other words, they scatter all of that gravel that is above what they consider the proper grade of the road, on all sides of that part of the road that is outside of the load that has been dumped, with the result that where the entire load fell from between the reaches of the wagon or from the end of the cart, that particular part of the load offered resistance

to travel, while that which was cast on to the road with a shovel yielded to travel. If that particular road were to remain undisturbed for one hundred years, that wart would still remain on the road, whereas, on the contrary, if they had deposited that load of gravel, or dirt, to one side of the road and had then spread it uniformly over the road, they would have had a smooth repair and some return for the money and time expended. I have named these wart roads, and I am trying to get rid of them.

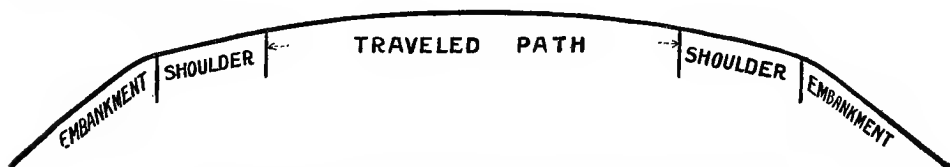
In going over this question of road building I have not the time to enter into a full description of each, or to say all I would like to on this great question, so I shall only touch and leave the different phases as rapidly as possible.



The next illustration you will find is clearly indicated on the chart. Any intelligent man can remember having gone over just such roads. You will notice the chart shows an elevation at the center of the road with quickly depressed sides, with a wagon on the center of the road and another at a very acute angle. Have any of you gentlemen ever seen any of this class of roads in States other than Connecticut.

A VOICE: Yes!

MR. MACDONALD: — This is what we call a hog-back road. You have either got to stay in the center of such a road or fall into the ditch. Now, it does not make any difference if you were to expend \$100,000 in building that road, you will never receive even a fair return for the cost. Its use to the traveling public is practically confined to the width of the wagon tires. If they are four inches wide, the two tires would make eight inches of road and for that you have paid ten, fifteen, or twenty thousand dollars; whereas, if the road had been built with a proper cross slope grade, say, not to exceed three-fourths of an inch to the foot, every inch of that road would be available for the travel, by reason of the fact that with the lighter cross slope grade — that is, the grade from the center of the road to the shoulder — every foot of that road would be an invitation to travel, which would thereby be distributed over the entire area, thereby extending the life of the road. The hog-back road, in point of usefulness, is the most expensive road any town can build, and there is no earthly reason for the construction of a road on that plan. No road should ever be built whose cross slope grade did not offer pleasant and safe access, at any time, from the center of the road to the ditch and a safe return back from the ditch to the center of the road, in case passing teams make it necessary to turn out. I do not believe it will be necessary for me to dwell any longer on this particular question, because I think it carries its own lesson with it, which is, don't build them!

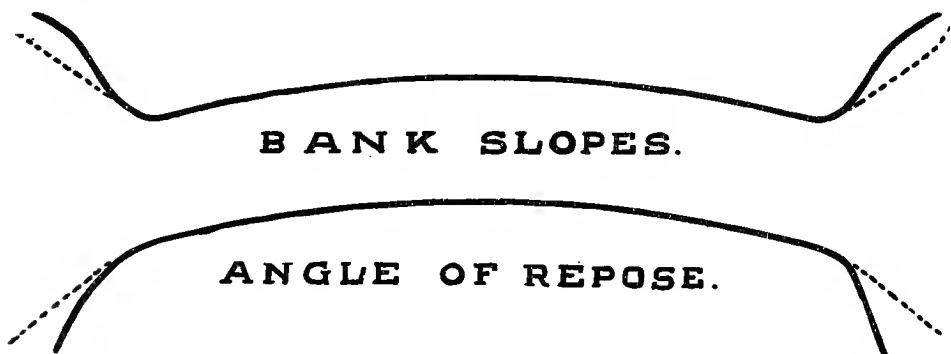


The next chart will show you the different features and component parts in the construction of a road — the travel path, the shoulder (which is the support to the material of which

the travel path is constructed) and the embankments. I want to have you carry these terms in your mind because I purpose having something to say about them later on.

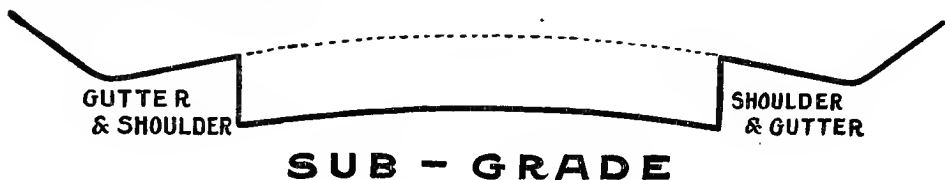
Now, the building of a shoulder may seem a simple thing, but not every one knows how to construct a shoulder properly. The reference to this matter will demonstrate that there are no little things in road building, and no one ought to know this better than the man who runs an automobile. He is a very close student of road building. By this I do not mean for you to conclude that after a man has purchased an automobile and has ridden in it a week that he is thoroughly competent to build all of the roads of the country in the most approved way. But I must say, in justice to the gentlemen who use the automobile, that they show a nice discrimination, for the vehicle they ride in is one of the best detectives I know of in the way of good or bad roads.

Now, to return to the construction of the shoulder. The building of the shoulder to the road is as important to that road as is the surface upon which you ride. In building a new shoulder to the height required to establish the grade, it is necessary, in putting in the material, to have it up to and even with the grade line established. When this newly added material is put on, it should be thoroughly compacted, and it should not, in placing the material with which to construct it, be run flush with the lines that have been laid down for the grade and width. On the contrary, it should be extended into the travel path and thoroughly rammed so that it will be solid and unyielding, after which the material should be cut back to the line established for the shoulder. It should never be finished flush with new material because it is almost impossible to run a crown on that road you are constructing unless you have a good, firm, and unyielding shoulder to work to, by reason of the fact that you cannot hold the crown, while in process of rolling, unless the necessary support is given by the shoulders. The character of the material used in the travel path — whether of cinders, gravel, or stone — makes no difference. If you desire a good, substantial road, you will have to build the shoulders in that way. This is a very important matter in building roads, and yet is one very little thought of by the ordinary road builder. They simply widen out the road, scoop out the ditch and do not properly shape or compact the shoulder to carry the material in the travel path.



The next chart will show the slopes in the cut and in the fill. You will notice the dotted line which runs from the gutter line up through both in the cut and in the fill is built on a basis of what we call the angle of repose. That is, the angle at which the slope will naturally rest, if properly constructed. The dark lines show the improper slope both in the cut and in the fill. In the cut, where a slope is made too abrupt, the overhanging weight causes the slope to break down, and the earth, by reason of that fact, falls down into the gutter. This material will have to be removed in the spring. In the meantime, the water, not having free course in the natural gutter line, has a tendency to go over the road proper and cut that road up. In the fill, the tendency is, where a slope is not made properly, as indicated on this chart, the edge of the embankment breaks down, and with

the rain falling on this improperly constructed embankment, the slope gradually yields and the elements finally eat into the road, which not only makes a danger point, but also has a tendency to destroy the road. Too much importance cannot be attached to this important function in road building.



The next chart illustrates a road excavated ready to receive the material, the shoulder and the gutter being properly constructed and shaped. This phase of the work is now ready to receive the material that is to be put in the travel path of the road. I think I ought to say, in this connection, that for drainage and also for the support of the road, the sub-grade, in my judgment,—that foundation upon which the wearing surface is supported,—should be identical with the cross slope grade of the road when completed. That is, the sub-grade, when completed, should have the same contour as the road when it is finished and ready for travel. I do not believe in thin-edged roads, with an increased depth at the center. I consider it a great deal better to have a uniform depth of material over the entire travel path of the road. The other method may result in a little saving of material, but any advantage in that direction, I think, is lost in the end, in not offering a proper sustinment at the shoulder for the center, or crown, of the road.



The next illustration is a macadam road. After we have shaped the road properly, as indicated, we are now ready to put in whatever material we desire to have in the travel path. I will first take up the question of the construction of a macadam road. You will notice, on this chart, that I am building my macadam roads in three courses. I prefer this method, by reason of the fact I think it is a great deal better to construct my road in courses rather than to put the entire depth of stone all in one course. In adopting this method, I use mixed stone in preference to stone of uniform cubes. The first course is what we call No. 1 stone, simply for distinction, although it is composed of stone ranging in size from three-fourths of an inch to two inches. A sufficient amount of this stone is put in so that after rolling it will be four inches in depth.

If I had my jars here, for the purpose of making an illustration of the difference between uniform cubes and mixed stone, I could show you that you can take a two-gallon jar of water and another two-gallon jar filled with two-inch stone — uniform cubes — and that very nearly, if not all, of that water could be put into the jar containing the stone, the voids taking up that water. So, the natural conclusion is that when you build a road in that way you are paying for air, with the result that, when the No. 2 stone — the second course — is worn off, all you will have received as a return for your money expended in the construction of the road, are the two inches and the one inch of screenings which are put on the top of the road for bond, or wearing surface, and you will have paid for seven inches. The reason for this is that the entire lower course will speedily find its way to the surface of the road and you will have a very loose and unpleasant construction to travel

over. So I find it is better to bond the road from the bottom to the top with three-quarter inch stone mixed with the larger size, finishing with the screenings.

When John McAdam built his roads he did not have anything in the way of a steam roller or a stone crusher. He had the stone, and when it was fractured it is reasonable to suppose there were some small-sized stone. History does not relate that he threw them away, and when he said no stone larger than what could be put in a man's mouth should be used, he meant two-inch stone, although I have seen men who had mouths larger than that. (Applause.)

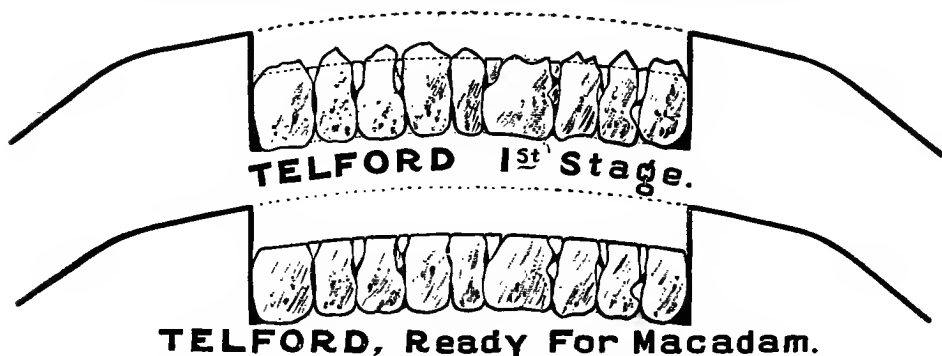
And so I build that first course with three-quarter-inch to two-inch stone, making a solid and compact base at the sub-grade. Then I continue the mixed stone in my second course, using stone ranging in size from one inch to one and one-half inches, putting on a sufficient amount to roll down to two inches. After the roller marks and foot marks have been taken out, I then bond the road with screenings. I require, in the application of these screenings, that they shall not all be put on at once, but shall be applied gradually — a little at a time — the first application being dry; then roll the road, after which I commence to use the sprinkling cart; then more screenings, followed by sprinkling and rolling. And so I continue to apply the screenings, sprinkling wagon, and roller until the road will shed water, and not absorb it. A road that will not shed water, you can be reasonably sure, will go to pieces, because the voids have not been filled up, nor has the road been properly compacted. There is only one way to apply screenings in finishing a road, and that is to do just exactly the same as you would if you were going to paint a carriage body. You would put on a coat of paint and rub it in; then a little more paint and rub it in, and continue that process, and then you would have something on which to put the varnish that would not crawl. So it is with the application of the screenings top, or finishing course, of the road. At least, this process has proven itself in my work. The old method of putting the inch of screenings all down in one course, wetting, and then rolling, will never result in a hard-finished surface — and unless the road has a good, hard surface, it will respond very speedily to ruts and toe marks.

Of course, the character of the stone used in the construction makes a great difference. It is only fair, I think, to state this fact. We have trap-rock in our State, taken from a certain quarry, that has been used on roads that have never had a drop of artificial moisture since the roads were constructed ten years ago, and they are splendid roads to-day. Then we have other roads, on which the stone used was taken from trap dykes, covered with dirt, and these roads have gone to pieces in two years. The stone used in the construction was smooth and had the corners broken off, or worked through the crusher, and the contractor took advantage of his specifications and put them in. To-day I find the stone are working up through to the top of the road, but a road well built under a good specification and with proper stone of right quality, I find, does not need a great deal of artificial preservative to keep it in order. Such roads want a little attention and at the proper time. The trouble is we wait too long. The horse is stolen before we lock the barn. I am afraid that before we get through with road building in this country we will have followed the same custom that has been established for many years on the other side, which is to divide the road into sections; put a man on every section to take care of that particular road, keep him there and pay him for the work, and make it his duty and obligation to see that his section is kept in repair. That is the only way we are ever going to keep our roads. (Applause.)

The next illustration I desire to bring to your attention is what is known as a telford road — a road that is constructed with a stone base. I always like to make a short cut in describing construction, and I am trying to do it here to-day. It is a very difficult matter to get contractors, or town officials, to construct a telford road properly. Many times they say to me, "Commissioner, I cannot build that road. I do not quite understand it." I say, "Can you build a good stone fence around the farm? Did you ever see one?" They answer, "Yes." Then, I reply, "Build your telford just like that — just like a well-built stone fence, and that is a properly-built telford road, only

lay your stone fence down flat on the road and you will have a perfectly built telford construction."

In building a telford road I use stone six to ten inches in width, eight to eighteen inches in length, and eight inches deep, placed by hand, broadest surface of the depth of the stone



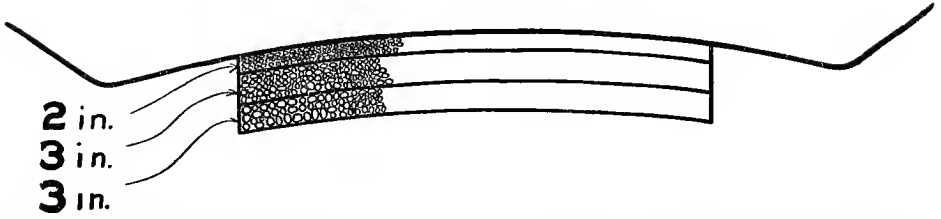
placed down, and stones laid in courses across the road at right angles to the center line of the road, and all stones set up vertically; all joints broken and all interstices chinked in and wedged with broken stone. All sharp points of stone must be broken off with a hammer to bring the surface of the bed stone true to grade. The bed stone should be laid up full and strong, so as to allow for all settling in rolling. In no case will the contractor be allowed to use stone that is not up to all these requirements. After the bed stone has been laid, chinked in and broken off to grade, the roller is run over the bed stone until it is firmly bedded and will not kick or rock under the roller. No nests of small stone are allowed, nor is the contractor allowed to use rotten stone.

Not a single one of these points in construction should be omitted. There is nothing that makes so much trouble as a rough or unevenly built surface to a telford road, for the uneven surface is sure to work up through the macadam and furnish an unpleasant surface to ride over. When the telford is properly constructed, even if the five inches of macadam is worn down, you will still have a good road to travel over, and there never was a telford road, if properly built, but what gave good satisfaction.

I build telford only in swale places where there are spring holes. I never lay a telford road in any but swale places for the reason that although a telford road is thirteen inches in depth, it will not wear as well as a macadam road — in so far as the macadam construction is concerned — seven inches deep. The reason of this is simply that the point of contact is so near the point of resistance. The telford road is rigid and there is resistance on the bed stone, and where there is resistance there is friction; where there is friction, there is increased wear. So that a thirteen-inch telford road will not wear the same, nor give as good a return for the money as a seven-inch macadam road. There is resiliency and yielding in a macadam road, while there is resistance in a telford road. It is a clear case of the hammer and the anvil. But we put these roads down where we encounter wet, swale places, to assist the road. With this little description of a macadam road, I will now turn to another class of construction.

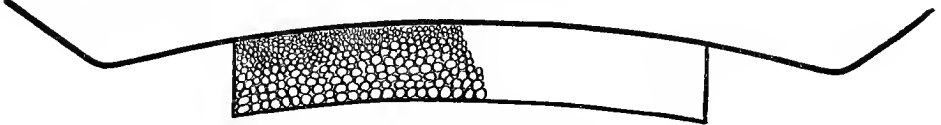
The next illustration I offer you in road construction is what I build in the State of Connecticut as a gravel road. This illustration shows that the gravel is eight inches in depth. The great trouble in building gravel roads is the difficulty in securing good gravel, and also the lack of ability on the part of the town officials to properly select the kind of gravel that will wear well and not become loose when put on the road. I am often asked this question by my selectmen, "Commissioner, how do you know when gravel is good? How do you tell?" "Well," I say, "I will tell you. When you find any gravel that requires

8 Inch Gravel Treatment In Courses.



a pick to dislodge it from the bank, you may be reasonably sure that such gravel will make a good wearing surface."

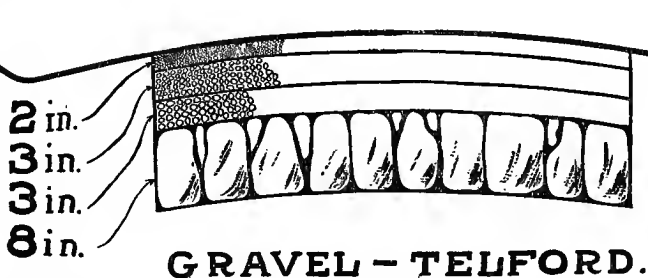
In the construction of these gravel roads I put the gravel in in three courses, because I want the roller pressure there. After I have rolled the sub-grade upon which the gravel is to be placed, so that it is firm and uniform, I proceed to build the first course, which consists of stone ranging in size from one to three inches, longest diameter of the stone. I use in this course eighty per cent. gravel — that is eight parts of gravel — and twenty per cent. bond. By bond, I mean material that is inherently in the gravel to assemble the stone. I require this stone to be put in three inches in depth, after the rolling has been completed. After all foot and wheel marks have been taken out, I then apply the next course, which is of the same depth, after rolling, as the first course — three inches. The character of the gravel is just the same as that in the first course — eighty per cent. gravel and twenty per cent. bond. I change the dimensions of the stone, however, to those ranging in size from one to two inches, longest diameter. As we get nearer to the top of the finished road I do not care to put in as large stone as in the base, or bottom course. This bottom course should be the foundation or footing course to sustain the carrying power of the road. After this second course has been put in and firmly rolled, I apply the last course of gravel. The amount used in this course must be sufficient to roll down to two inches. I change the dimensions of the stone, so that no stone in this course shall exceed one inch, longest diameter, and the percentage of stone and bond is also changed, so that the gravel in this course is sixty per cent. and the bond, or assembling power, forty per cent. In this construction you will notice I use just about the same method the Lord did when he built this little crust upon which we live. He built his stone foundation below, and if you will notice the stratification, you will find that as He reaches the surface, He cements it all with the sub-soil and then on top the loam. In my judgment, it is a good system to follow in the construction of a gravel road.



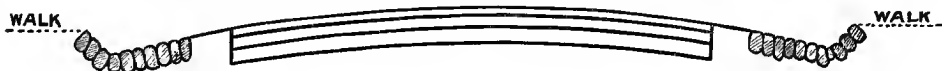
8 Inch - Gravel Laid in one Course.

The next chart is also a gravel road. That, perhaps, will answer a question that you are turning over in your mind, which is that many of you may say you cannot afford a roller, or to build a road of the kind I have just treated. So to meet just such conditions — and we have them in our State — we build this other kind of gravel road. In other words, we try to build roads to suit the pocket-book of the town and the conditions we have to

contend with in the way of material. In this construction we apply the gravel all in one course, but we are always sure that the gravel is dumped on one side of the road and then the whole road covered uniformly. Then we rake the coarse gravel found in the gravel down to the base, or sub-grade. After that we true the road up and turn it over to the travel, letting such travel be its own roller. At the same time, we pursue the usual practice of building the slopes in the cuts and in the fills. We build the shoulder, we build the sub-grade, and we do everything just the same as we would in the most expensive construction. This character of road is giving splendid satisfaction, and takes care of the travel that that particular district has. So you will see we are building roads other than macadam.



The next illustration will show you a gravel road with a telford base. The telford construction is just the same as that used in the macadam road. The only difference in the two kinds of construction is that gravel is used in the place of crushed stone. This makes a splendid road, and if I had enough good gravel in the State, I want to tell you here and now, I would never lay another inch of macadam in the entire State. It is a mistaken idea that we cannot make splendid gravel roads. We can do it. I have miles of gravel road in the State and I wouldn't swap them to-day for any macadam section I have. The West has got to meet that question of material. We simply have to take the conditions as we find them and utilize them. The man who goes into the position of highway commissioner will have to take these conditions and make the best of them, if he is going to act up to his best official privilege. He must meet those conditions and not have any hobby to ride to death. It is the people's money he is spending, and he should spend it righteously, economically, and intelligently. Now, in many of my towns, especially within borough lines, where I lay roads, I find it necessary to install a cobble gutter, and this illustration I am now showing you will indicate how that construction is laid.

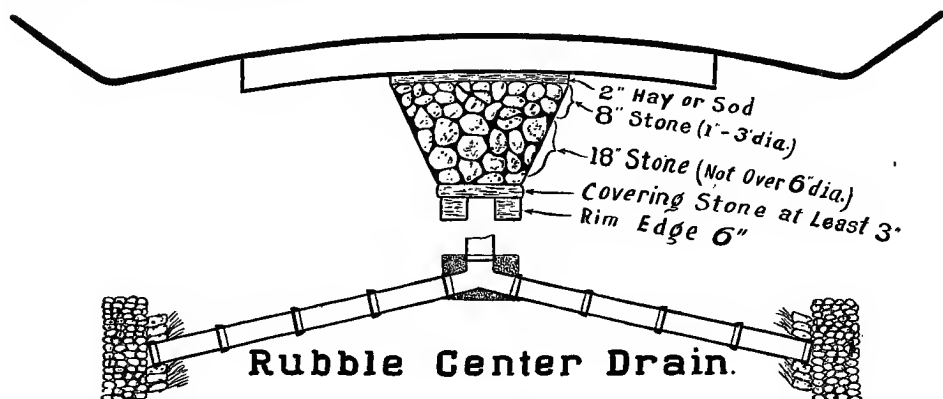


Rim Edge Cobble Gutter.

This cobble gutter, if you will notice, is what we call the double rim edge — that is, cobbles, or stones, set with the depth of the stone down and at an angle of about one to one, which is one foot vertical rise to one foot horizontal. The ordinary curb that is used will cost from thirty-five to forty cents a foot. This cobble gutter construction can be laid for about fifty cents a yard — just about one-third what it would cost for the curb. Cobble gutters not only serve to make a gutter line to carry the water, but where laid in this way they result in forming a curb which will make a sustainment for the walk, if it is desired to build one. The water is held back from the sidewalk and is carried down to the nearest exit point, making a splendid improvement and a cheap, but substantial,

curb. I have laid a great many miles of this character of cobble gutter and find it keeps its shape and does splendid service. It certainly is an economical way of treating this phase of the question that is presented to commissioners many times in their work.

Now, I have been talking principally about surface water. Perhaps I ought to say something about drainage.



The next illustration is in reference to this very important matter in road building. There are three great principles in road building, under the head of drainage. The first is, get the water out of the road; the second, get the water off the road; the third, get the water away from the road. If you follow those things you will have accomplished the whole science of properly draining a road.

Many times in my work I find that a telford construction will not take care of a bad, low-lying, wet section of highway — and I have quite a number of such in my State.

In the early days of New England there was organized what was known as the proprietors' committee. They selected and arranged for the layout of roads and adjusted differences. Once in a while — just the same as at the present time — the proprietors' committee had a friend whom they desired to serve. In serving this friend it must have occurred, many times, that the friend had a piece of land that the committee desired to construct a road over, and they saw to it that that piece of low-lying, wet land that their friend had was swapped for a good piece of high and dry, sweet and clean upland, with the result that with this arrangement we find it has added to our official duties and considerable expense to the State in bringing such sections of highway up to a high and dry condition for travel, without having to resort to a boat. In such places, where these low, wet places occur on the roads, I use this under-drainage. I do not find anything that has worked out so successfully in furnishing a complete and first-class system of under-drainage as this rubble-drain construction.

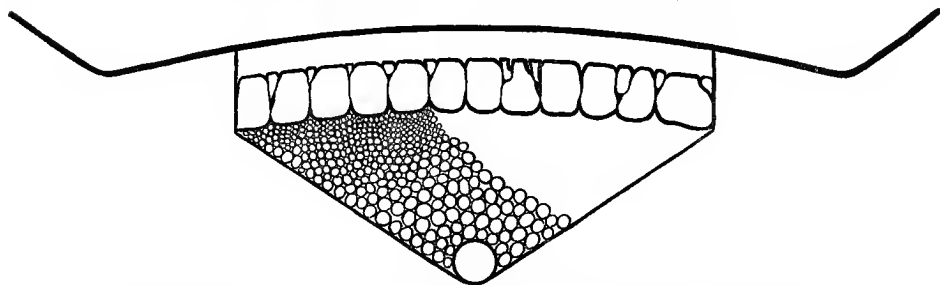
In this construction an excavation three feet in width at the top and three feet three inches deep, and eighteen inches wide at the bottom is made in the center of the road. The top width is measured from the center line so that one foot and six inches will be the width of the ditch from either side of the center line. The sides of the ditch are faced down uniformly and smoothly to the bottom so that an unbroken side will act as a sustainment for the walls of the ditch. After the ditch has been excavated to the dimensions specified, we provide that the contractor shall lay an edge of stone on each side of the bottom of the ditch, this edge to be from six to eight inches in width and six inches in height, thus leaving an open drain six inches in width and parallel with the line of the construction of the ditch, except that at the end of the drain, where the pipe is to be inserted, it shall be eight inches in width. The inner face of both these rim edges must be true and smooth so as to offer no obstruction to the flow of the water. Upon the top of these rim edges

is placed a covering stone not less than three inches in thickness, with the entire rim edges so covered as to protect the under drain. Upon the top of the covering stone is placed field stone, fence stone, or cobble stone not to exceed six inches in their longest diameter. The depth of this size stone does not exceed eighteen inches from the top of this under-drain to the top of this course of stone. Upon the top of this eighteen-inch course of stone is placed another course of stone ranging in size from one to three inches in its longest diameter, which course is eight inches in depth. On top of this eight-inch course, when the stone has been brought up to within twelve inches of the top of the road, is placed a covering of inverted sod, or hay, put on for the purpose of protecting in a thoroughly perfect manner the filterage purposes of the stone, so that the possibility of any earth finding its way down into the rubble work will be entirely removed. A two-inch course of sand or gravel is then laid on top of this inverted sod, or hay, bringing the level of the ditch up even with the sub-grade. This course of sand, or gravel, is thoroughly compacted. The material used in the construction of the road is then laid on top of this sand or gravel. At the end of the drain is placed an eight-inch salt-glazed, vitrified tile pipe, which is laid to the exit point for the water. The end of the pipe where the connection is made with the under drain is laid up in a cement bed and the joints are thoroughly cemented so that all water shall leak into the pipe and none shall percolate through the soil. At the exit end of the pipe a cement header is built and a pipe and distributing apron is extended out eighteen inches.

I find this rubble drain, in its construction, is very inexpensive, and in its durability I have never had to replace one.

In our State there are miles of stone fences that have served their day. They were first called upon to do service when the farmers, in cleaning up their land to grow their crops on, used them to protect their land while crops were growing. Now, then, as a natural sequence, the land having first been cleared, making it possible to grow crops, and, second, fencing in the growing crops, in these days of light and airy wire fences, the stone can be put to better use, which is to be placed in the road to furnish a proper sustinment and drainage to carry the crops that have been grown to the nearest market place.

CENTER DRAINAGE.



The next illustration is another system of underdrainage which is used where we find very wet places, but can secure no way to discharge the water that falls into the bottom of the drain if we were to carry it to the same depth as that which is required for the rubble drain — that is, where the leak-out, or exit point, is not low enough to carry the water away from the road. So, in this instance, I simply shape the ditch like a “V,” put my drain pipe in the center and at the bottom of the excavation and fill the ditch with gravel, leaking the water out at some convenient exit point, and then put the telford on top. This construction not only furnishes a splendid foundation upon which to place the wearing surface, whatever it may be, but also ensures a good, dry road at all seasons of the year.

These are all simple remedies. I have not the time to take up the whole question of how to properly make fills, nor the different kinds of culverts and other things in road

building, but from these few crude ideas, hurriedly presented, you may gather something that will be of service to you.

The State of Connecticut has expended some three millions of dollars in carrying out a system of road building along the lines suggested in this address, and if there is anything in the thoughts that have been presented, or the suggestions made, that you think will be helpful to you, allow me to extend a sister State's courtesy to anyone who so desires to feel perfectly free to appropriate anything I may have had to offer.

I thank you, gentlemen. (Long applause.)

CHAIRMAN MACDONALD:—Gentlemen, the Convention will please come to order. The State Engineer of New York, I am sorry to say, has been unavoidably detained. This we all very much regret, because the subject which has been assigned him, "Highway Development," would have been very ably handled. He has delegated a gentleman who has been associated with the department for some two years, Mr. Frank L. Getman, to say in the words of Mr. Skene what he would have said in person had he been here himself. I take great pleasure in introducing Mr. Frank L. Getman.

(Mr. Getman then read the paper of Mr. Skene, as follows:)

HISTORY OF THE DEVELOPMENT OF IMPROVED HIGHWAYS IN NEW YORK

By FREDERICK SKENE, State Engineer, New York

Prior to 1898, the State of New York had taken no steps towards a systematic improvement of its highways by means of State aid. The Legislature of that year passed what is known as the Higbie-Armstrong Act, which provided for the State, county, and town sharing the cost in the proportion of fifty, thirty-five, and fifteen per cent. respectively. It also passed what was known as the Fuller Plank Law, which provided that every town which abandoned the labor system of maintaining its roads and raised its highway tax in cash should receive from the State an amount equal to fifty per cent. of the cash tax so raised. This is known as the money system.

The first appropriation made by the State to carry out the Higbie-Armstrong Act was \$50,000, in 1898, and this amount was increased from year to year until 1904, when the appropriation by the State had increased to one million dollars per annum.

In the State Engineer's report for 1901, a bonding act was suggested for the purpose of providing such an increase in the appropriation as would be necessary to carry on the highway improvement work in a proper and adequate manner, and a system of roads, comprising about 7,500 miles, connecting all the various county seats, was outlined, the estimated cost of this improvement being about fifty million dollars. This proposition was discussed at various supervisors' con-

ventions held in Albany at the call of the State Engineer, was passed by both houses of the Legislature, adopted by vote of the people, and finally, in 1906, became a part of the State Constitution. By this amendment the State is authorized to issue bonds to the amount of fifty million dollars—the amount to be issued each year to be determined annually by the Legislature, and is also permitted to advance the county and towns' share of the cost of these roads and charge back to the county and towns annually such an amount as will, at the end of fifty years, repay the State for the principal and interest on the sums it advanced for the county and towns' share respectively.

By recent amendments to what is known as the Higbie-Armstrong Act, the proportion to be borne respectively by State, county, and town has also been changed, so that the poorer counties, that is, those having small population and assessed valuation, and which could not pay the thirty-five and fifteen per cent. for county and town, are obliged to pay a lesser amount based upon the averaged assessed valuation per mile (in Sullivan County, for instance), bringing the county's proportion down to eight per cent. and in some towns the towns' share to two per cent.

Generally speaking, throughout the State it averages about fifty, thirty-five, and fifteen per cent.

Comparison of progress during period in which the State Aid Law has been in operation in New York State.

During Year.	State Appropriations.	Appropriations by Counties.	Mileage Covered by First Petitions.	Mileage of Roads Adopted by Counties.	Mileage of Complete Improved Roads.
1898	\$ 50,000	\$63,872	502	21	0
1899	50,000	42,876	157	9	5
1900	150,000	431,227	155	130	35
1901	420,000	1,055,874	495	247	20
1902	795,000	1,748,115	1,106	418	126
1903	600,000	2,198,623	1,728	427	112
1904	1,108,265	2,032,855	1,323	422	158
1905	50,000	1,974,423	1,959	427	117
1906	5,000,000	1,724,286	3,355	332	94
1907	3,000,000	2,881,071	855	558	311
	<u>\$11,223,265</u>	<u>\$14,153,222</u>	<u>11,635</u>	<u>2,991</u>	<u>978</u>

The original idea was to improve the highways in such a manner as would afford a proper connection between the county seats and afford the public generally a hard, compact road. At first, quite a number of the roads were designed and constructed as gravel roads. Nearly all of the first roads, whether gravel or macadam, were but fourteen feet in width. As time passed, and an increased amount of travel resulted, practically all construction of gravel roads was eliminated and macadam roads were increased in width to fourteen feet, sixteen feet, and in some instances to a greater width.

The average cost of roads built from 1898 until 1903, was about \$7,000 per mile. Since then, owing to the increased width, and in some instances increased depth, of the road, and also to the fact that prices of labor and material have advanced considerably, the cost has been increased to an average of about \$9,000 per mile.

Some attention in the way of oiling and tarvia treatment has been given State roads, but owing to the limited amount of money appropriated by the Legislature for the purpose of maintenance but little in this line could be done. Many of the roads built and completed for some time have received little or no attention, this being due to the fact that the annual appropriation has been inadequate to properly care for existing roads.

The department has for years been endeavoring to find the best method of main-

taining roads, and as yet has been unsuccessful, but it is believed that eventually a system of local patrol, or a sectional repair system, will be adopted. This, we believe, cannot come too soon. The money system method of maintaining roads, to which reference has been made, has been adopted by a large majority of the towns and, beginning with 1909, will become effective in every town in the State.

The amount of money which the State pays as its share to the several towns during 1908 is approximately a million and a quarter, which, with the moneys raised by the towns in cash, made a total of upwards of three and one-half millions, all of which will be expended in careful and systematic manner under the supervision of this department. The proportion which the State pays to each town has been changed from the basis of fifty per cent., and a sliding scale adopted, similar to that in force for Higbie-Armstrong work. In view of the fact that there are nearly 75,000 miles of public highways in the State of New York, it is believed that most beneficial results will be speedily obtained from the money system maintenance of highways.

A radical change in the manner in which the work of highway improvement is to be conducted will take effect on January 1, 1909, when three commissioners, to be appointed by the governor, will have entire charge of the highway improvement throughout the State, both money system and Higbie-Armstrong work. The provisions of this law,

with the exception of some few portions, referring to assessment of poll taxes, etc., not becoming effective until January 1st, I do not deem it advisable to take up the matter in detail, as the commissioners will be the proper persons to interpret its provisions.

Quite a number of the States have in the past few years been engaged in constructing highways under varying conditions. New Jersey, the first, I think, to take the initiative, is fortunate in having such a stone as is best adapted for road construction. Massachusetts is also fortunate in this respect. The roads built in Connecticut and Rhode Island are of cheaper design and construction than those being constructed in the States of New Jersey, New York, and Massachusetts. In many parts of this State good stone for road construction is not available, and the cost of importing either trap rock, limestone, granite, syenite, or gneiss is prohibitive.

The increasing popularity of road improvement had carried the work into many new counties where the value of the local stone for road purposes was an unknown factor. The item of stone is the largest in the making up of the cost of the work, amounting to nearly seventy-five per cent. of the total. Upon the quality of stone depends the success and life of the road, and one failure on the first road built in a new county means a setback to further improvement in that locality. Profiting by past experience, the present administration has installed the most complete laboratory in the country for testing stone for road purposes. Tests are made for specific gravity, moisture, absorbed weight per cubic foot, wear by abrasion, hardness, toughness, and cementation value. Before constructing a road every available local stone is now tested and the best selected or, if not fit, local stone can be found, a stone of known value from a near-by county or one from a good commercial quarry is imported. By means of these careful tests the department is also able to determine whether it is financially advisable on a road subjected to heavy traffic to use a fair local stone for the top course, replenishing it annually, or to pay more for an imported stone in the first instance, thereby saving in the end by the lower annual cost of maintenance.

This department, in preparing plans for a road, makes every effort to provide for proper drainage and to secure the best alignment and grade possible. This, in a number of instances, increases materially the cost of the road per mile. The six-inch road built in the past by the State, was, in my opinion, heavy enough to take care of ordinary travel, that is, until the advent of automobiles. Since then the roads have suffered to quite an extent, and I think that in future construction main highways, at least, should be telfordized or the macadam road increased to a greater depth of, say, eight or nine inches.

There are at present under contract about 225 roads, aggregating approximately nine million dollars and a little more than one thousand miles.

The highway work in the State is divided into three divisions, known as the Eastern, Middle, and Western. The Eastern comprises that section from the Atlantic Ocean to the Canadian line and to a point as far west as Utica. The Middle Division takes in the State north and south from that point to the east line of Wayne County. The Western Division embraces that section west of the east line of Wayne County. These divisions are subdivided into residencies, the Eastern having eight residencies, the Middle five, and the Western five. Each residency comprises from two to five counties, each county being in charge of an assistant engineer, and each road being in charge of other grades of employees in the department. The total number of engineers and assistants employed in the highway department of the State is about one thousand.

The necessity for the improvement of the highways of this State is now so well established that argument is scarcely necessary, but in case objections should be raised to the cost of the work, it is well to bear in mind the fact that during the period of ten years prior to the inauguration of highway improvement by State aid, the United States Government statistics showed a decrease in farm values in only four States of the Union, the greatest occurring in the State of New York, and amounting to upwards of seventy millions of dollars. Resting, as our prosperity does, upon the financial welfare of the

farmers, there can be no question but that any moneys expended for the improvement of the means of intercourse and the transportation of the twelve million tons of farm

produce annually raised in this State will ultimately result in benefit to the whole State. (Applause.)

PRESIDENT HOTCHKISS:— With the Chairman's consent I wish to introduce the next speaker, not only because I know him well, but also because he is one of the representative automobilists, not only of this country but of the world. It is my great pleasure to introduce Mr. Charles J. Glidden, of Boston, who is the donor of the Glidden trophy, for the possession of which a contest will be begun in front of this building day after to-morrow morning at ten o'clock, and who probably has traveled more miles in an automobile in different countries than any other man.

SEVEN MINUTES ON THE ROADS OF THE WORLD

By CHARLES J. GLIDDEN

MR. PRESIDENT AND GENTLEMEN:—

I have been allotted seven minutes to give you my impression, as a practical motorist, of the roads of the world.

During the past seven years I have driven an automobile 46,528 miles in thirty-nine countries, passing through over 14,000 cities, towns, and settlements, twice encircling the globe, reaching the most northerly point by crossing the Arctic Circle in Sweden, and the most southerly on Ward's Parade in New Zealand.

For the purpose of comparison I will classify the roads as follows: excellent, good, fair, bad, and wretched. In placing the countries in their proper class, I take into consideration the roads as a whole, that is, the condition of the entire road, for instance: Boston to Minneapolis or St. Louis; Land's End to John O'Groats in Scotland; Monte Carlo to Paris; Naples to the French Frontier; south of Sweden to the Arctic Circle; north of Denmark to Berlin; Vienna to Paris; Bombay to the Frontier of Afghanistan; and from that point to Calcutta; Melbourne to Sydney in Australia; and nearly all the main roads in Ceylon, Japan, Syria, Egypt, Greece, and Tasmania.

In many countries good and excellent roads are maintained to a distance of fifty or 100 miles from the principal cities. Burmah, as an illustration; but the motor car must be shipped on the train 350 miles from Rangoon to Mandalay.

Under the head of excellent roads I will place those in Cochin China, England, India, Java, Malay States, Scotland, Wales, and France, although one-third of the route we recently covered from Nice to Paris can only be considered fair.

In the class of good roads I place those of Austria, Bavaria, Belgium, Bohemia, Ceylon, Denmark, Germany, Hawaii, Holland, Hongkong, Italy, Switzerland, and Tasmania. The roads in Tasmania were built by convicts many years ago and are well preserved.

We found the roads in a fair condition in the Fiji Islands, Greece, Ireland, Japan, New Zealand, and Sweden; bad roads in Burmah, Egypt, and Spain; wretched roads in Annam, China, and Mexico.

In a class by themselves about equally divided between good, bad, and wretched, I put Australia, Syria, and I regret to say, the United States.

The grand trunk road of India extending from the frontier of Afghanistan to Calcutta, with a spur from Aligarh to Bombay, in all 2,300 miles, is an excellent thoroughfare; broad and nearly level the entire distance; fringed, however, with the Himalayas for 1,000 miles. Although the mountains are fifty miles away, they appear near at hand, and the cold blasts from their snow-capped summits are keenly felt at all times of the year.

All the roads of Ceylon are well graded over the passes 7,000 feet high, and our

drive of 1,334 miles amidst charming tropical scenery and through jungles in which elephants and other wild animals wander, was delightful. Ceylon is the ideal tropical country in which to motor, but Java with its excellent roads from one end of the island to the other, 600 miles, is wonderfully interesting. Here we found good hotels, kind-hearted people, active volcanoes, and a dense tropical growth of every known species of plant and fruit that flourishes within six degrees of the equator.

The roads built under direction of the French Government for military purposes in Cochin China are excellent and extend to the frontiers of Annam and Cambodia.

Sixty miles on the Libyan desert, ten miles to the Pyramids, and around the cities of Alexandria and Cairo, will be found the only good roads of Egypt; the remainder are bad and not suitable for wheeled vehicles.

The best engineered roads in the world are over the mountain passes in Greece, but the surface is rough and neglected.

The narrow and congested highways of Japan, with their weak bridges of bamboo, limit the use of the roads principally to the ricksha and man-drawn vehicles, except in the neighborhood of the large cities. With much difficulty, however, we drove

from Kobe to Nikko and in the country 1,122 miles.

New Zealand has rough surface and dangerous unprotected roads with steep grades over the mountain passes. Many rivers have to be forded with assistance as the waters are over the tops of the wheels.

Our drive in March last of 797 miles in the Holy Land, Syria, and to Jerusalem, the Jordan, the Dead Sea, and all the noted Biblical places, created intense interest in the minds of the people, as we were the first to enter the country with the automobile. The roads on the plains of Sharon are impassable in wet weather, and hub-deep in mud between Nazareth and Galilee, Jericho, and the Jordan. Dry weather favored us, and our drive over the bad roads of the Lebanons, and from Damascus to Beirut, was, from a scenic standpoint, grand. Syria is closed to the automobiles except by special permission from the Sultan of Turkey.

Mr. President, I wish to congratulate you and your associates upon the great work you have already accomplished for good roads in the United States, and I hope through your efforts, within a few years, we may be able to motor from Boston to San Francisco. Your only competitor will be the airship. (Applause.)

CHAIRMAN MACDONALD:—*Gentlemen of the Convention*, The gentleman that I am now to introduce has more than passing significance to me in the introduction, by reason of the fact that he was the principal factor in the organizing of the association of which I have the very distinguished honor to be president, and its first president. In his own State, early and late, through winter's cold and summer's heat, he has preached the gospel of good roads and served his State. By reason of the fact that through some constitutional limitation he was denied a salary, he served his State for two years without fee or reward, and was known as the unconstitutional commissioner. He is the candidate for governor of all lovers of good roads and all who admire a man who exhibits such a spirit of self-denial, the Hon. Horatio S. Earle, the little giant road-builder of the State of Michigan.

DRAINAGE AND SUB-BASE OF IMPROVED ROADS

By HORATIO S. EARLE, State Highway Commissioner of Michigan

MR. PRESIDENT, GENTLEMEN OF THE AMERICAN AUTOMOBILE ASSOCIATION, AND FRIENDS OF GOOD ROADS:—

I am glad to be here upon this platform in the Empire State that I went through when I traveled from the State in which I was born to that best of all States—

Michigan. Having been born in the little State of Vermont, I couldn't grow very large, of course, on what I had to grow on, and we couldn't get very rich on one of those farms on the side of the Green Mountains, where we boys were engaged in taking the sheep, wheelbarrow-fashion, and dip-

ping them in so that they could get what little grass there was between the stones; — and so I left there and went to Michigan.

It is true that I served my State as the unconstitutional State highway commissioner for two years. But I had the pleasure nine years before that to serve without title and to even serve in that next place to the State's prison, the Senate of Michigan. And at the time I served there all good-roads bills were voted down. But not knowing enough to know when I was licked, I had a new bill for every session of the Legislature, until I had a resolution submitted to the people changing the constitution of the State so that we could pay State aid as other States east of us did; and when the people had a chance to vote on that they cast a vote of 142,000 majority for State aid. After that a law was passed known as the State Reward Road Law, whereby the township or the county takes the initiative and builds the roads, but builds the roads after the plans and specifications of the Highway Commissioner, and when those roads are done, if up to the standard required by my department, then I have the privilege of paying that little bit of a reward of a thousand dollars a mile for macadam road and five hundred dollars a mile for gravel road. This doubtless looks to you in the State of New York or Pennsylvania or Connecticut or Massachusetts or the eastern road-building States as a very small amount; yet in the first two years and a half of the State Highway Department of Michigan we built 200 miles of road, or twice as much as any State in the Union ever built in the two years and a half of the existence of a highway department at the beginning; and to-day I am building in my State 130 miles of gravel road and eighty miles of macadam road, and I have one inspector besides myself in my department to do the work.

Now, my speech to-day is on "Drainage and Sub-Base of Improved Highways," and I am going to read what I have to say to you upon that subject, and I will hand the paper to these boys if they want it when I am through. I have to be a little careful what I say, for a good many of you know that just at the present time I am a candidate for a position, whence, if nominated

and elected, I will pick out a better man for State highway commissioner and to appoint him January 1st, next.

I desire your permission to allow me to digress a little from my subject, and I will ask the question, "What is a road?" and I will answer by saying "It is a part of a transporting machine."

To illustrate: One machine is composed of a horse, a wagon, and a road. If one part of this machine is poor, the whole machine is poor, and costly to run. It makes no difference which part — if the horse is poor and the wagon and road are good, only a small load can be drawn, and slowly at that. So, too, if the wagon is poor, and the horse and road are good; the same effect prevails where the road is poor and the horse and wagon are good. The machine must have all parts good, or else it is a poor machine.

It is just the same where the power is an engine, and a part of the wagon; there are still three parts to the machine — the power, the wagon, and the road. No matter how good are two parts, if the other one is poor the whole machine is poor.

For centuries we have been breeding up the horse to get a perfect animal, and while the breeders have been doing this, the wagon-makers have been perfecting the wagon; but all to little effect as to velocity and hauling ability over the roads, for the road-masters have been breeding down the roads to offset the breeding up of the horses and the wagon.

Now comes the automobile — a work of art; a work of skill; a production of brain and brawn, and of money. It needs a perfect road in order to accomplish that for which it is made and is capable of accomplishing.

Who would think of using a belt incapable of carrying the power to a machine, in order to properly run the machine? Or, who would think of having a poor machine to do the work with plenty of power and a good belt? Then, let us get sense and make the last part of the road machine. The road itself, as good as the horse and wagon, and as good as the automobile, and then we shall exhibit true horse sense.

There are some, however, in this country of ours that hate the automobile as bad as

they do the Evil One, and the automobilist as much as they could an Evil Two, and I, in my work, as State Highway Commissioner of Michigan, find some who say they are against making the roads any better, out of spite for the automobilists.

I had a farmer carry me from the railroad station to a Grange picnic, one day, and from the time I got into the wagon until I got out at the grounds he railed about the automobiles. I just let him go on, and never said a word to stop him, but in my address to that audience, I said: "I do not ask you to love the actions of that automobilist who makes a fool of himself, and there are some who do — just as many per capita, and no more, as there are farmers who make fools of themselves — but I do ask you to stop and think, and to allow me to help you," and then I told them that the product of the automobile factories of Michigan sold for \$18,000,000 in a year, and \$14,000,000 of this money came from outside of Michigan, to Michigan. It came from the rich and well-to-do, and went to the manufacturers, but did not stay with them. It went from them to the employees and the stockholders, and from them to the stores, and from the stores to the farmers — for pork, mutton, beef, oats, wheat, corn — for their wool — for their all. "And," said I, "being a Republican, I would like to credit to the Republican party all the prosperity we have enjoyed for the past few years, but I cannot without lying — so I won't; but will tell you the truth; that a good deal of our prosperity has been generated by the rich and well-to-do buying automobiles and so putting oceans of money into circulation, and it is time for you farmers to get business sense and appreciate the automobile industry and join with them and all others to make the roads good and so enhance the industry and the prosperity of the nation."

DRAINAGE

Drainage is a subject big enough to warrant a convention of two days doing nothing else but studying it, and then, in all likelihood, the road engineer would find the first problem that he met with was one part of the subject not considered at the convention. Surplus water must be off,

out, and away, but not all moisture, for your road is less dusty and more durable if it contains just enough moisture; but this brings us up to the perfect road, which does not exist, and will not.

Some soils are over-drained, generally speaking, a sandy soil is; then, no tile are needed and no ditches are needed, and should not be made, but just large enough gutters to take the surface water off the road, and the shoulders or berms of a road in such a soil should be grassed over and the gutters, too. And if they are, a moisture will rise from your water-table below, in dry times, so as to cause your road to be less dusty and so more durable.

But in our eastern and middle country we are bothered more with excess of water than with a lack of it.

A mayor of a small city, a physician by profession, came to me for advice what to pave their streets with, and my advice was: for the main business street, tar macadam; for residence streets, common macadam. "But," said he, "didn't that tar macadam heave in Port Huron"? I said to him, "Mr. Mayor, I am surprised that you, a doctor, should bring that up as against the pavement. I suppose," said I, "that if I were bloated seven or eight feet around me and sent for you, you would say I had some kind of a skin disease, and you would prescribe some kind of a skin salve, wouldn't you"? No, you wouldn't, you would say that I had a surplus of wind or water, and that it would have to be taken out or I would heave so that I would burst. And, I say to you, that if that street had been paved with gold it would have heaved, for the engineer had not provided a drainage that took the surplus of water out from under that pavement within frost-line distance."

But what proportion of town road commissioners in the United States know at what depth to place a tile or the bottom of a ditch at the side of a turnpike road to drain the center of that road below the frost-line level? I will answer — not one per cent. Then, what is the remedy? Teach drainage in your common schools, and let the boys practice on the school yards, for this changing of commissioners every year brings about every grown-up

country boy into the office of Township Highway Commissioner sometime during his life; and this early teaching would have good effect on the roads.

But let me hand out to you a simple, general rule, and I wish it might be so published that every road-master in the country might read it.

To drain the subgrade of a road where there are no springs, place the bottom of your ditch, or your tile, at the side of a twenty-four-foot roadway as many feet below the center of the road as the frost goes down, and six inches more, and your cellar will be dry enough so that your road will never heave if you put on a tight roof so that no rain-water or snow-water can percolate down into it from the top.

If you are only to ditch or tile one side of your road, go six inches deeper.

One more word: Tile under a road is generally a mistake, for it takes a good deal of ditch-digging, and a foot of tile for each

foot of road; while a tile across the road at the proper depth once in 100 feet is one-quarter as much tile and ditch, and if opportunity is given for discharge at one or both ends, will do the road just as much good.

If I have my way in Michigan, we will have a good highway commissioner there after January 1st, for I mean to appoint him myself.

We also will, if I have my way, use a portion of our convicts in quarrying and crushing trap-rock in the summer time, and in the winter making tile and culvert pipe, all of which will be sold to the townships and counties at cost, so the convicts will be working to make the State better that they have made worse by their former acts.

The National Convict-Labor Good Roads Association will hold its annual meeting at Grand Rapids, Michigan, July 22d and 23d, and everyone of you, and everybody else, are invited to attend. (Applause.)

CHAIRMAN MACDONALD:—A year ago last March there was held in the State of Pennsylvania the largest convention of road builders ever held in this country. Among the delegates that came to that great convention were the men in authority in Pennsylvania, numbering some five or six hundred—a splendid tribute to the highway commissioner of that State, a man who has more miles of road under his immediate supervision to take care of (having a hundred thousand miles of road in his charge) than any other commissioner in this country—a very plain, unassuming gentleman, although having handled millions, and yet, through the confidence which the people of his State have in him, millions more placed in his charge and at his disposal to improve the highways of that great State—and there has never as yet been a suspicion nor a suggestion of graft; and so what this gentleman has to offer for your consideration is well worth listening to. I take great pleasure in introducing the Highway Commissioner of the State of Pennsylvania, the Hon. Joseph W. Hunter.

ROAD IMPROVEMENTS IN PENNSYLVANIA

By JOSEPH W. HUNTER, Highway Commissioner of Pennsylvania

MR. CHAIRMAN, MR. PRESIDENT OF THE AMERICAN AUTOMOBILE ASSOCIATION, AND DELEGATES TO THIS CONVENTION:—

It gives me pleasure to be here and meet with you. When I was asked some time ago to take part in the proceedings of this Convention, I doubted very much my ability to do so by reason of the season of the year and the amount of work that is in the hands of the State Highway Department of Pennsylvania to-day, but I managed, with my other work, to get a little time here with you.

It has given me pleasure so far to be here, and I believe that the pleasure will continue until the end.

It has been said, "The roads of a country are accurate and certain tests of the degree of its civilization and their improvement keeps pace with the advance of the nation in numbers, wealth, industry, and science." While this may have been true fifty or sixty years ago, yet to-day it can hardly be said, with truth, that the improvement of the public roads of the great Commonwealth of

Pennsylvania, as a whole, has kept pace with the advance of the State in numbers, wealth, industry, and science; and one is forced to the conclusion that there is more in precept than in practice. The centers of wealth and industry depended entirely upon the rural and farming communities to maintain the public roads without any assistance, until the burden became so great that the country districts have been unable to cope with the problem, and in many instances the public roads, by reason of the lack of funds with which to maintain them, are in a worse condition than they were twenty or thirty years ago. The system of turnpikes or toll gates, inaugurated in 1800, gradually developed and extended over the whole State until there was a net work of fairly good roads that permitted of travel during the entire year. This system of turnpike roads was maintained and served the purpose until the advent of the railroads, which soon absorbed the traffic that was formerly transported over them. The period from the advent of the railroad to the present epoch of road reconstruction may be termed the "Dark Ages" in the history of our public roads.

The loss of traffic caused many of the turnpikes to be abandoned and the failure to properly maintain others caused them to be condemned, and they were paid for by the county which they traversed. The care of the abandoned and condemned turnpikes was put upon the township supervisors, who, in many instances, entirely neglected them, and these roads to-day are the worse to be found in many counties and are absolutely dangerous and practically impassable.

About 1885, there began an awakening in some of the eastern counties of Pennsylvania as to the necessity of having better roads. Under the movement inaugurated, and which was stimulated by the University of Pennsylvania offering \$700 for prize essays on the subject of "Better Roads," several miles of roads were reconstructed in the counties adjacent to Philadelphia, wholly at the expense of the townships in which the roads were located. In 1895, an act was passed authorizing counties to issue bonds for the reconstruction of township roads and to maintain them afterward, thus relieving the townships of a portion of the

burden under which they were laboring. But few of the counties have taken advantage of this act; Allegheny having reconstructed 200 miles, Washington about fourteen miles, Luzerne and Northampton counties a few miles each.

The State Highway Department was organized under Act of General Assembly, approved April 15, 1903. This act appropriated \$6,500,000 for road improvement covering a period of six years; \$500,000 being available in each of the first two years; \$1,250,000 in each of the next two years following, and \$1,500,000 in each of the two years next following. The money appropriated is apportioned to the several counties according to the number of miles of township roads in each county. This act provided for the payment by the State of two-thirds the cost of reconstruction, the other third to be paid proportionately by the county and the township, and also provided the setting aside of ten per cent. of the amount appropriated as a maintenance fund, the State to pay fifty per cent. of the cost of maintenance.

The act of May 1, 1905, provided for the payment by the State of three-quarters the cost of reconstruction, the remaining one-quarter to be paid for jointly by the county and the township.

The act of June 8, 1907, appropriated \$1,000,000 in addition to the \$6,500,000, so that for the two years ending May 31, 1909, the department has had for reconstruction work the sum of \$4,000,000 or \$2,000,000 per year.

There are upwards of 98,000 miles of township roads in the State and under the township system of making so-called repairs, the sum of \$4,500,000 is annually expended.

The initiative of road improvement under the State highway law must be taken by the supervisors of the respective townships. Applications are on file asking for State aid in the reconstruction of township roads in the sixty-six counties to which the law is applicable — Philadelphia County not being included, the city being coextensive with the county. One thousand nine hundred and fifty-six applications are on file asking for the improvement of 3,695 miles. Work is being carried on in sixty-two counties. In four counties no work has been done, owing

to the opposition on the part of the county commissioners. Three hundred and forty-one miles of township roads have been fully completed and accepted from the contractors since the work of reconstruction began. Two hundred and ninety miles are now under contract and will be completed by the end of our next fiscal year, May 31, 1909.

The average cost of all work complete, based on a stone road sixteen feet wide, including bridges, culverts, and drain pipes, is \$10,295 per mile.

The cost of bridges is \$195,123.44, or \$572.30 per mile of road.

The cost of all extras is eleven and four-tenths per cent. of the total cost of the roads.

Engineering is two and one-tenth per cent. of the cost, and the cost of inspection is three per cent.

The average cost of reconstruction has steadily increased and will in all probability continue to increase for a few years, until the worst roads have been reconstructed, when the average will gradually become less.

There have been about 1,000 miles of roads reconstructed by counties and townships without State aid.

The Automobile Division of the State Highway Department was created by Act of Assembly, April 19, 1905, and provided "that no motor vehicle shall be operated or driven upon any public street or public highway in any city, borough, county, or township in the commonwealth until the operator thereof shall have procured a license from the State Highway Department," and providing for a license fee of three dollars each per year. Under this act, 20,175 licenses have been issued so far during the year 1908. The revenue received from the licenses, after the expenses of running the division are paid, is devoted to other uses of the State Highway Department. A portion of the money has been used in making tests of various rocks offered for road material. In making these tests some very valuable information has been obtained regarding the bonding qualities of stone, and in combining various stones with limestone. This is very noticeable in the combination of a granite rock with a limestone. Granite having a bonding value of six was combined with a limestone having a bonding value of

twenty-two the resultant being a bonding value of ninety-seven. This combination of materials has proven satisfactory in actual construction work.

Experiments have also been made with tarvia, asphaltolene, liquid asphalt, and other so-called binding and dust preventatives, some of which have been successful, others not.

It is no longer a question of the necessity or desirability of having good roads, but more the question of having or raising the means with which to pay for them and the best methods of construction. The question as to how best to construct roads that will give general satisfaction to the traveling public, and at the same time withstand the traffic that is placed upon them and likewise be dustless is a momentous one and cannot be disposed of offhand. The general method of road construction that has been in vogue since the days of Macadam and Telford had proven satisfactory in the past, and will, under all ordinary circumstances, sustain the traffic that passes over it; but, since the advent of the automobile, it has been found that this form of construction — either macadam or telford-macadam — will not withstand the traffic of the heavy, rapidly moving motor. The automobile is here to stay and the use of motor vehicles will increase, rather than diminish, and it is for the various State Highway Departments to ascertain the best methods of road construction, that will not only meet the requirements of the automobile traffic but at the same time be satisfactory to the ordinary horse and wagon traffic. Brick-paved roads have been suggested and have many advocates. They will answer for the heavy teaming and automobile traffic, but for the ordinary traffic and light driving they are not satisfactory; the first cost is fully two-thirds more than an ordinary telford-macadam road. The annual cost of maintenance will be less, unless they are absolutely neglected by those whose duty it may be to care for and maintain them. A brick road will practically have to be rebuilt in twenty to twenty-five years, according to the uses to which it has been subjected. The dust preventatives, oil, tar, or asphalt, have their uses but are not permanent, and, unless the physical conditions are perfect, the practical

results are nill. The only, and safe and economical, method is to incorporate the dust preventative and bonding material with the material used in the road construction. Either bricks or this latter method of construction will undoubtedly be adopted as best suited to accommodate the traffic in suburban districts on the main or much traveled roads. The latter method will cost at least one-third more than the ordinary telford-macadam road; the maintenance will probably cost less.

The question arises as to who should pay the additional cost of the tar or asphaltic macadam construction. It is not fair nor just that farmers or rural citizens should be asked to bear the burden of the added cost of such construction when an ordinary telford-macadam road will well accommodate them and give them the needed facilities for travel, when the need for the extra construction, is caused by the use of the automobile, the owner of which pays no part of the cost of construction or maintaining such a road, and, in fact, in many instances, pays no tax anywhere that is used for road improvement or maintenance. If these roads are built to accommodate automobile traffic and add to the pleasure of the motorist, then the owners of automobiles should be required to contribute to the maintenance of the roads, and I believe they stand ready and are willing to contribute liberally toward the expense of having such roads and also to their maintenance, but in doing this they should be given a "square deal" and freed from the many petty annoyances to which they are now subjected—"speed traps" and kindred schemes. Every automobilist is not a reckless and dangerous person and the notion that they should be treated as such is vicious. Knowledge of this sentiment makes reckless operators more defiant and inspires petty persecutions or form of black-mail, levied under the guise of enforcing the law, and should not be tolerated. The man who wilfully breaks the law and imperils the lives of others should be punished with more than a small fine, but decent automobilists (and they are a great majority) deserve decent treatment and the "square deal."

Every one interested in having good roads should also be deeply interested in preserving and maintaining them. Along this line I

would suggest to the manufacturers of automobiles that the diameter of the wheel be increased six to eight inches over what it is at present. If this be done it will greatly assist in the abatement of the dust nuisance and if the rate of speed on curves be diminished the vacuum made by the rapidly moving machine will not be so great; neither will the shear of the wheels be so great, and, consequently, the damage to the macadamized surface materially lessened.

The question of maintaining the roads after reconstruction is an important one, if not more so than that of reconstructing them. After the roads have been reconstructed they are turned over to the board of township supervisors to maintain; this they frequently fail to do, not even opening the ditches, or seeing that the pipe intakes are free. The supervisors are not altogether to blame, as they have not been educated to cope with the new conditions. To the majority of them it is about the same proposition as that of taking a boy from the grammar school, placing him in the senior class of the university and expect him to graduate with first honors. The supervisors must be educated to enable them to understand and solve the problem presented by the new conditions of road construction. Various organizations of township supervisors have been formed and are usually well attended and some practical results obtained. Some county automobile associations have taken up the matter of educating the supervisors, have held meetings, employed speakers to address the supervisors and road-masters, awarded prizes to the road-masters who have best maintained the roads, and entertained the supervisors as their guests. In fact, the Motor Federation of Pennsylvania is devoting its best endeavor to aiding the cause of "Good Roads" and securing as liberal an appropriation as possible to aid the State Highway Department in its work. The department has many calls from boards of supervisors asking for information regarding the township roads, and for fixing of grades, plans for small bridges and culverts, and for specifications for reconstruction of short sections of roads by the townships themselves, so that they may conform to the State specifications and the townships

receive aid in their maintenance — all of which is encouraging to the department.

The demand is so great for road improvement in the various counties that there can be no doubt but at the 1909 session of the legislatures an appropriation will be made authorizing the expenditure of not less than four millions of dollars per year for the period of at least twelve or sixteen years and, in addition, an appropriation will be made for the reconstruction of main highways or trunk lines through and across the State. These trunk lines should practically follow the present highways connecting county seats, principal cities and towns and should be reconstructed and maintained wholly at the expense of the State. No better investment could be made. The improvement of

these roads will greatly benefit the rural districts, will invite the stranger within our borders, and will afford our citizens an opportunity of seeing the most fertile fields and grandest scenery to be found anywhere in the world, and which to-day remains hidden and unknown to but few. The value of good roads is incalculable. We in Pennsylvania believe that with a system of good roads extending to the State line in all directions and connecting with similar systems in adjoining States there will be inaugurated an era of good feeling and fellowship, of easy communication and intercourse, that as the years go by will more firmly weld and cement the bond that unites us in the sisterhood of States. (Applause.)

PRESIDENT HOTCHKISS: — The next speaker on the program is A. N. Johnson, State Engineer, of Illinois, who will speak on "Road Problems in the State of Illinois."

ROAD PROBLEMS IN THE STATE OF ILLINOIS

By A. N. JOHNSON, State Engineer of Illinois

MR. PRESIDENT AND DELEGATES: —

In the short space allotted to this paper, it will be possible to touch only a few of the salient features of the work of the Illinois Highway Commission. I have selected, therefore, the problems and methods we have used in their solution which would be of general interest.

We have a not an uncommon condition, namely, a large road mileage and a comparatively small amount of money per mile for its maintenance; there are in Illinois about 95,000 miles of public roads, outside of city streets, for the maintenance of which the taxpayers now spend annually \$5,000,000 including bridge maintenance. About ninety-two per cent. of the road mileage is to-day earth roads.

Large areas of the State have little or no road material in the shape of gravel or rock; while practically all the rock within the State, suitable for road material, is limestone. The majority of this is comparatively soft, and requires somewhat special treatment if the most possible is to be had from it.

Where there are large areas comparatively unsupplied with road material, the

most economical method to supply it is to establish large stone crushing plants. This makes possible utilizing convict labor in what seems to be the most economical and from nearly every standpoint, the most satisfactory method that has been employed for this purpose.

We have a law which provides that the prison authorities, on the application of the State Highway Commission, shall establish stone crushers and furnish crushed stone to various townships free of cost, the townships paying the freight. This method of working the prisoners has been in operation for two years at the State prisons at Menard and Joliet with most satisfactory results. A few of the benefits of this method, taking into account the conditions that exist in Illinois, are, first, the convicts employed in this manner do not interfere with existing industries; on the contrary, the State is establishing an industry rather than interfering with one, as the utmost output of which the convicts would be capable would be but a very small percentage of the material that would be required if any extensive road improvement were undertaken. Second,

inasmuch as the cost of housing, feeding, and caring for the prisoners is the same whether they are working or idle, outside of the comparatively small cost of the machinery, the crushed stone is without additional cost to the taxpayers. Thus it happens that one section of the State does not feel that they are paying taxes for the benefit of another section, for their taxes would be just the same, whether the crushed stone was prepared or not.

From the standpoint of prison management, this method has worked most successfully; the prisoners are kept within enclosures, where the discipline is practically the same as within the prison yard proper; they are not brought into contact with the public, nor is there any undue chance of escape offered, as is the case when they are exposed on the public roads, against which plan there is considerable objection in most northern communities.

In 1906, there were shipped from the prison crushers 47,675 cubic yards; in 1907, the amount shipped was 97,746 cubic yards. As the quarries become opened doubtless this output can be greatly increased, as the capacity of the crushers totals 1,500 to 1,800 cubic yards per day.

The employment of the convicts to crush stone seems, therefore, to be both economical and equitable, and we anticipate ultimately establishing other stone depots or sub-penitentiaries at advantageous points, so that greater areas can be supplied than at present.

In the use of our comparatively soft limestones, we found two things to be a great advantage; first, that the size of rock used in the upper layer, or wearing course, should vary from two to three inches in size, making the lower course out of the intermediate or one and one-half inch size material. The road with the larger pieces in the wearing surface is much more durable. Second, that many limestones, particularly those that are furnished from the State prison quarries, do not seem to bind successfully on the road.

When the road is first constructed, the screenings are apparently well bonded, but in a very short time, as soon as heavy rains occur, the bond is broken and the screenings wash away, leaving the stone exposed. We have found, however, that where it is pos-

sible to obtain fine gravel or coarse sand an excellent bond is obtained, if the sand or gravel is used in place of the limestone screenings, using but a small amount of the screenings at first and then covering with the sand or gravel, the bond of the sand or gravel and the limestone together being much better than the bond of either one alone. It is interesting to note that this fact is also borne out by laboratory tests.

We are carrying on what promises to be some very valuable experiments in the construction of earth roads, combining oil and tar with the earth. Some similar work has been done, particularly in California, but this treatment has never been attempted in a climate similar to that of Illinois on black gumbo soils. It is believed, however, that with proper preparation of the roadbed and thorough rolling, that an impervious covering of the roadbed would be obtained. Its durability remains to be tested.

Such roads, if it is possible to construct them, would doubtless answer even better than macadam roads for most country traffic and would meet much better the needs of the increasing motor travel, for it is evident to-day that unless some elastic, adhesive binder is used in the construction of macadam and gravel roads that the durability of these roads is of very short duration, even with but a moderate amount of motor traffic.

Owing to the great percentage of earth roads, the commission has given a large amount of its attention to their proper repair and maintenance. We have issued 100,000 bulletins on how to maintain earth roads by the use of the road drag, and, as a result, where there were but two or three hundred drags in use in the State when the commission began its work, we estimate that there are now about 15,000 drags, each one maintaining, on an average, a mile of road. Through the active coöperation of the Post-office Department, and the interest taken in this work by the rural carriers of Illinois, our campaign for improved earth roads has been very much assisted.

Another feature of our work, which is somewhat unusual for State Highway Commissions, has been brought about by the conditions in Illinois. Of the \$5,000,000 spent for roads and bridges, nearly one-half

is spent for bridges, of which great numbers are required in all sections of the State. In the past, the bridges that have been built have usually been of very light design, totally inadequate for modern traffic conditions. Moreover, owing to the lack of expert knowledge on the part of local officials as to proper construction, the bridge contractors have erected not only too light bridges but have charged considerably too large prices.

In an effort to remedy these conditions the Illinois Highway Commission has offered the services of its engineers to the local officials in the preparation of plans, estimates and specifications for bridges, and, as a result, we have had more demands for this work than we had men to fill them.

We have particularly urged that all smaller bridges, that is, spans of fifty feet or less, be constructed of reinforced concrete. This bridge work of the commission has proved extremely popular and has already saved to the tax payers many times the amount of the appropriation made to the commission.

At the Southern Illinois penitentiary we have built with convict labor a test bridge of reinforced concrete, forty feet clear span and eighteen feet wide, which it is proposed eventually to load to destruction. This will be the largest test of this character so far attempted in this country. This test has also an added interest from the fact that it is, perhaps, the first time convict labor has been employed in a scientific investigation, and thereby reduced the cost from a number of thousands of dollars to as many hundreds.

We have also undertaken for the first time in this country a systematic road traffic census, and for two years past we have a record of the traffic, taken four or five times a month, at eighty-one different stations in all parts of the State.

The time is too short here to enter into a detailed discussion of this work, but sufficient to say that we believe it is the most logical and best means of estimating the value of a road to a community, inasmuch as the work of a road is based upon the use that is made of it. We have found that the size of the town towards which the traffic is going has little or no influence on the amount of traffic on a particular road; that the condition of the road has a most marked

effect on the amount the road is used; that three or four hundred vehicles a day may be considered as large traffic for country roads; and that the amount of traffic rapidly decreases the farther away the point from the center towards which the traffic is going.

Our work has necessarily been planned and carried out, as nearly as possible, in accordance with the general sentiment of the people. This sentiment is by no means uniform in all sections of the State. In fact, in some places, there has been a most active agitation against road improvement. This, we believe, has come about chiefly through misinformation which has in the past been supplied by those who had their own selfish ends to seek. We do find, however, a rather general inclination to ascribe any road improvement movement as more or less an automobile affair. It is unfortunate that there does exist a prejudice against the automobile, but such is a fact. I, therefore, do not think it is out of place to mention here some things that seem wise for the automobile interests to take up where they find such conditions. They first should uphold and promote legislation that seeks or attempts to seek the safety of the traveling public, even though some of this legislation may appear unreasonably restrictive. The easiest way for its correction would be, not to adopt the means sometimes employed of lobbying to defeat such legislation and so arouse useless antagonism, but have its unjust features demonstrated; that this will produce in the end but little hardship and result in the speedy repeal of any such features is most probable, from the fact of the rapid increase in the use of the automobile in the country districts that is taking place to-day. It is now no uncommon thing in many sections of Illinois to see, as one rides through the country, automobiles standing at the farm gates, all of which has come about in the last few years. It would somewhat tax the imagination to say what will be the increase in the next five or ten years, but it will, doubtless, not be long before, in progressive agricultural communities, like Illinois, the number of automobiles owned in the country will be found to be greater in proportion to the population than the number owned in the cities. In the meantime, should the country residents

desire to pass legislation that is not to the best interests of all the traveling public, it must soon be remedied and the momentary hardship to a few would not seem worth while arousing a general and useless antagonism.

In closing this somewhat disconnected and necessarily brief account of the work in

Illinois, I would have you bear in mind that the basis of the whole work of the Illinois Highway Commission rests on the idea that there is much of the taxpayers' money that is spent to little advantage, and that by the adoption of better methods great improvement is possible without increased taxation. (Applause.)

PRESIDENT HOTCHKISS: — With the consent of the speaker, Mr. L. W. Page, Director in the Office of Public Roads in the Department of Agriculture, will speak to-morrow morning. His address is an important one and we wish his hearers to be refreshed by a night's sleep and the entertainment of the evening.

The next speaker on the program is Mr. R. D. Beman, Deputy State Highway Commissioner of Pennsylvania.

ROAD PROBLEMS FOR AUTOMOBILISTS

By R. D. BEMAN, Deputy Highway Commissioner of Pennsylvania

MR. CHAIRMAN AND PRESIDENT OF THE AUTOMOBILE ASSOCIATION, AND GENTLEMEN OF THE CONVENTION:

My paper is very short, fortunately, and I will endeavor to give it to you as rapidly as possible, so as not to detain you, as I know you wish to leave. I realize, of course, that I am, in a sense, filling what might be called a stop-gap place in the program, coming on at a time when many of the audience have already left, but that place must be filled by someone, and I am satisfied. My subject is "Road Problems for Automobileists."

In a convention composed of road-builders alone it would seem proper to devote this paper solely to a discussion of road-building methods of a technical character. Much of this nature being contained in the other papers presented here, or seen in the object lessons furnished by the roads shown to us, I shall not confine myself strictly to this subject. As this Convention is held under the auspices of the American Automobile Association, and as many of those attending this Convention do not primarily consider the road question from the standpoint of an engineer but from the standpoint of an automobilist, it has occurred to me to take up some phases of the latter's connection with and relation to the improvement of our highways.

Human nature is so constituted that

each one of us looks out primarily for his own interests, or for the interests of the class in society or business in which he is placed, or the cause which appeals most strongly to his sympathies. As the use of the automobile only becomes a convenience and pleasure when the highways over which they travel are made smooth and hard, it naturally follows that automobilists have done much for the cause of good roads; more than they are given credit for in the majority of our rural districts. Many strictly rural residents are unable to see that there are any interests in common between them and users of automobiles. Even some persons who would otherwise favor road improvement take sides against such propositions because of their belief that if the roads are made better they will be so overrun with automobiles that travel for themselves and their horses will be unsafe.

I doubt whether automobilists as a class are aware of, or if aware of, realize the degree of the animosity which is felt toward them. In States where road improvement was given earlier attention than in Pennsylvania, and where the rural districts were sooner penetrated by the automobile, this feeling may have moderated to some extent, but that it still exists is proven by the so-called "speed traps," which, while avowedly existing as a means for enforcing the law,

are only maintainable because of a public sentiment back of them which commends and justifies their methods. The fact that the communities which maintain "speed traps" do not display the same degree of eagerness in enforcing many other laws shows conclusively that the stricter enforcement of the automobile laws reflects a feeling of revenge or retaliation for fancied wrongs. It has been my lot to attend a number of local conventions of road supervisors and farmers of the better class in all sections of Pennsylvania, and at several of these gatherings one of the prominent topics has been the automobile. It is no exaggeration to say that there are thousands of farmers who, if able to carry their wishes into effect, would absolutely banish the automobile from our rural highways.

Much of this is unreasonable and unreasoning prejudice; a little is the natural result of frightened horses, smashed buggies, and injured people who follow in the train of careless automobile operators. I do not say speed-maniacs, for I believe that a careful driver may attain a much greater speed than is allowed by law with less liability to accident than the careless driver may incur at low speed. In other words, the speed at which a car travels is not necessarily a gauge of its liability to cause accidents.

I have drawn attention to this prejudice against automobilists in order to show a reason why they should exert some effort to bring about results which would enlist the sympathy and approval of those who are now antagonistic. The farmers now see only the fact that an improved road means pleasure and comfort for the automobilist; they usually fail to see the economy effected in their own use of the road for commercial purposes; and they do not understand or appreciate at all the part which automobilists have played in obtaining much of the legislation which has given them the improved roads. If, however, the automobilists can direct their energies along lines which will show beneficial results easily discernible by the rural residents they may be able eventually to bring about a more cordial feeling. It may be said that this is only a sentimental argument, but sentiment is at the bottom of much of our

business, and the financial advantages to be gained by harmony and coöperation would be considerable.

One of the sources of complaint against automobiles is that popularly known as the "dust nuisance." This suggests to the road-builder not only the condition thus described, but what is of vastly greater importance, the rapid loss of valuable road material. I believe that all the observant automobilists will agree that automobiles damage macadam roads to a greater extent and destroy them more rapidly than any other vehicle which traverses them. The rapid movement is partly responsible, as it produces a partial vacuum into which the air rushes from every side, lifting, as it does so, the fine dust from the road surface and placing it at the disposal of any breeze which may be blowing. The greater part of the destructive effect, however, I believe, is due to the friction caused by the tractive force applied to the rear wheels, combined with the suction of the rubber tires. When compressed under heavy weight the convex surface of the tire becomes to some extent concave, its convexity being reversed and forced inward, and a close approach to a perfect vacuum being forced. Under rapid motion this vacuum is abruptly expanded by the sudden removal of the tire from the road surface, and the suction thus caused lifts the cushioning coat of screenings and dust which is needed to prevent the stone below from exposure to the grinding action of the wheels, and the raveling or loss of bond which ensues when the finer particles are removed.

The excessive damage caused by automobiles is too thoroughly established to admit of doubt. Despite the suddenly increased cost of maintenance caused thereby, I believe that instead of a curse the automobile is a blessing in disguise, for I am firmly convinced that its coming will stimulate the search for a method of obtaining a dustless road — and a dustless road means a durable road. The ultimate result will be a road from which each passing breeze or each summer shower will not remove the fine particles of stone. The consequent enhanced durability will in the future reduce the cost of maintenance even below that existing prior to the advent of

the motor car, as there will be less rapid loss of material from the road surface than before the days of the automobile.

This problem in road maintenance is essentially a problem of the present day, because it has remained for a modern means of highway transportation to aggravate an existing defect in our road-building system, until the more rapid loss of material practically compels our attention to a subject which we did not formerly consider of much importance. We viewed this loss under slow-moving horse-drawn vehicles with comparative equanimity, but now it has grown, like a gourd in a single night, until in some localities the total destruction of our roads is threatened. Nor is the problem one that will become less in the future. On the contrary, the continual increase in the number of motor vehicles will cause more rapid destruction of stone roads. In the year 1906, Pennsylvania issued 14,082 motor-vehicle licenses, in 1907 the number increased to 19,780, and this number has already been equaled in one-half the year 1908. This means a proportionate increase in the damage done to our macadam roads. Succeeding years bid fair to still further swell the ranks of motorists, with still greater damage to the highways.

How may we preserve the valuable road surface which is now blowing away in dust? It may be too early to predict the exact method by which the desired result will be reached, but I have been much impressed with the experiments with tar and oils containing asphaltum. It is well established that Pennsylvania petroleum, which has a paraffine base, is not adapted for such purposes, and I believe that some of the asphaltum oils sold for road use by various oil companies would be much more valuable if they contained less of the volatile elements and possessed more "body." It is probably unnecessary to warn automobilists against the use of oils containing naphtha, which is destructive to rubber.

The application of tar to a road requires a heating apparatus, a roller, and a supply of screenings to be spread on top of the tar. On this account many townships will not likely adopt tar. Few Pennsylvania townships own road rollers at the present time, although the construction of macadam

roads will doubtless lead to an asphaltic oil that may be applied by means of an ordinary sprinkling wagon, and no screenings or rolling necessary. It, therefore, seems to me that the present outlook in the poorer localities is for the use of asphaltic oil, and in the wealthier districts either tar or asphaltic oil, as may be determined by further experiments and experience.

The State Highway Department of Pennsylvania has been experimenting to a limited extent with both classes of materials, with very satisfactory results, and expects to continue until it is definitely determined which, if either, is best. The various emulsions and chemical combinations which have been tried may serve well for use on park driveways and boulevards, but they do not appeal to me as adapted for our rural highways. Neither do I believe that any form of *surface* treatment will ever be found entirely satisfactory or economical. I am convinced from my study of the subject that the asphaltum or tar should be incorporated in the macadam during the construction of the road.

I have not thus far alluded to the use of water as a means of keeping down the dust, for it cannot be classed as a permanent means to the desired end and cannot be considered as producing satisfactory results. The road on which water is used ranges from one extreme of dust to the other extreme of mud, with a satisfactory existent for a short time midway between the two extremes. The Pennsylvania Highway Department, which pays part of the cost of maintaining all stone roads within the limits of the State, encourages the use of water, and recognizes the cost thus incurred as a legitimate maintenance expense, but does so only as a temporary measure and in the hope and belief that other and better means will be found.

In looking about for other possible means of solving the problem, the use of brick suggests itself. The Pennsylvania Highway Department has laid several pieces of brick pavement. The first cost is, however, much greater than the cost of macadam, averaging nearly double. The cost of maintenance of brick is for some years little or nothing, possessing in this particular an advantage over macadam. But a brick pavement,

when entirely worn out, must be replaced bodily, by taking up the old brick and laying an entirely new pavement; while macadam, when properly maintained, is never worn out. The problem, therefore, resolves itself into the questions of how long a brick pavement will endure in a fairly good condition before needing to be renewed, and the cost of such renewal, together with the increased amount of interest on the original investment due to greater first cost, as compared with the lower first cost and the lower interest on the investment in macadam, together with the greater annual cost of maintaining it.

These questions can only be answered by experience. In localities where good paving brick can be procured at low cost, I believe brick will come into quite general use on rural highways and that we will sooner or later find that the roads which we improve will be divided into two classes: one macadamized, the other bricked. In the former will be all strictly rural highways, not adjacent to the larger towns or cities; in the other, will be all roads which we might class as suburban, lying near and leading toward the larger centers of population. In the latter class will also be included sections of the rural, macadam roads, where the grade reaches or exceeds eight per cent., as I believe it unwise to lay ordinary macadam on any greater grade than that. There are other factors entering into such a question, such as wear and tear on vehicles, horses, etc., but for ordinary purposes it is needless to consider such matters when comparing brick and macadam pavements.

Here is a way in which the members of the automobile fraternity may, if they will, expend some of their abundant energy and means. If the American Automobile Association will first experiment until the best dust-laying means is found and then assist financially in the initial treatment and subsequent maintenance of our macadam roads, or assist in bearing the additional expense of laying brick pavement, it will not only earn the approval and thanks of the road-building fraternity but will do much to create better feeling among our rural friends, who are now tormented by clouds of dust and financially damaged by reason of the increased cost of maintenance.

Some such coöperation has already been seen, but automobilists as a rule have not contributed financially to any project designed to prevent the dust nuisance or promote longer life for the road.

Another direction in which a most laudable effort might be put forth is in reference to railroad freight rates on road materials. In some other States the railroad companies have realized the fact that it is to their interest to aid in the construction of good roads by making as low rates as possible on all forms of road-building materials. In Pennsylvania it has seemed that freight rates have been increased to keep pace with the greater activity in the improvement of the highways. Why cannot the American Automobile Association organize a concerted campaign for a reduction of rates on materials used in road construction?

The railways depend largely for their revenues upon hauling farm products. When the country roads are bad, business with the railroads is slack, and when the rural highways are good the railroads are often over-crowded with freight. The wholesale improvement of the country roads would tend to equalize the freight movement which is now crowded into the months when the roads are usually good. Freight rates on trap-rock from the nearest available sources in Southeastern Pennsylvania to the northwestern part of the State would make this kind of material cost from seven to eight dollars a cubic yard, laid and rolled. There being no trap nearer, we are forced in that vicinity to use other material of less durability. A general reduction in freight rates would result in the construction of more and better roads at less cost, and this reduction would be more offset by the revenue from an increased output of road-building materials, while the more uniform movement of the farm products would at the same time be an advantage to the railroads. I would urge automobile associations to commence a campaign for the reduction of rates.

In comparing brick and macadam I assumed that the latter would be properly maintained. I am sorry to say, however, that the macadam roads built by Pennsylvania have not been properly cared for. There is great need for the education of the

local officials who are charged with the care of our highways, both improved and unimproved, and here is another direction in which the automobile associations might well expend money and labor. Some road supervisors seem to hold the erroneous idea that a road will never need attention after it has been improved. At least this is the most charitable view to take of the supervisors' flagrant neglect of some of the improved roads built by the State of Pennsylvania. There is absolutely no excuse for such neglect, for the State stands ready to pay the larger share of the expense of maintaining all macadam roads.

In this connection, local road officials should be taught the difference between "maintaining" and "repairing" a road. An improved road should never need *repairs*, for it should be constantly *maintained* in good condition. When a rut or depression appears it should be filled at once with crushed stone and left for the traffic to consolidate, the loose stone being raked together frequently until it is thoroughly bonded. The longer such spots go without attention the more rapid is the increase in the expense of repairs. The old saying that "a stitch in time saves nine" was never more true with reference to road repairs. This principle is equally true with reference to dirt roads. The old-fashioned method of "making" the roads once a year is absolutely wrong. In the localities where

the roads are always the best, a small force of men is kept constantly engaged in going back and forth patching and fixing any bad spots which are found. A systematic campaign of education in such details as these would in time accomplish much in this direction if carried on through the columns of the rural newspapers and by wholesale distribution of circulars. I would also urge a campaign of education in behalf of wide tires for heavily loaded wagons, the use of the King road drag on dirt roads, and proper methods in caring for drainage. Our roads are immeasurably worse than they need to be. The majority of local officials in charge of roads mean well, but have little knowledge to guide them in their work. Few of them possess the time to study out for themselves the proper methods, or the initiative to make such a study even if they have the time. Instead, they follow, year in and year out, the incompetent methods of their predecessors, and will continue to do so until they learn how to do better.

In closing, I want to commend to the attention of your Association the points I have tried to make, which, if put into operation, would, I believe, result to the advantage of the farmer and the automobilist and would in time do away with the lack of harmony now existing between the two classes. (Applause.)

PRESIDENT HOTCHKISS: — Gentlemen, the session will close with one more address, the balance of the program going over until to-morrow.

One of the most important factors in road building — in fact, in my judgment, the most important factor, is the county engineer, the man who has charge of the work in the locality, and we are most fortunate in having with us a man who for forty years has occupied an equivalent position in Essex County, New Jersey. New Jersey roads are world-famous, and this gentleman is one of the road builders of that State; I refer to James E. Owen, of Newark, who will be the last speaker of the afternoon.

MAINTENANCE OF IMPROVED HIGHWAYS

By Mr. JAMES E. OWEN, of Newark, New Jersey

GENTLEMEN: —

I have only got two thoughts to submit to you this afternoon. It is getting late and you have had a good deal on the question of roads, so a great deal that I might say has already been said and it would be useless

for me to repeat. But I wish to say this, that in the experience of building these roads in the last forty years we have built good roads, we have kept them in repair, kept them in such repair that we have been practically overworked by the travel upon them.

You heard to-day the criticism that has been made on the restrictions of foreign automobiles. Of course, that restriction would not have been necessary if the attraction had not been so great as to have brought them there. I say that as a fact.

Now, I have to confess, and I think I can afford to do it, with my age, that all our practices and all our experience in road construction and road maintenance are to-day of no avail; with the enormous travel, and the automobile travel, it is almost impossible to keep our roads in the state they were four or five years ago. The engineers have examined into the necessities of some substance or some mode of procedure that will keep these roads in good shape. We have tried the oil and we have tried the tar, and my experience to-day is this, that the only successful effort in keeping a good macadam road in repair is by the proper application of certain preparations of tar. This matter is now under discussion — was under discussion a week ago or so by the National Society of Engineers, and the conclusion arrived at was that that probably was the only good, safe, material. The matter is to be discussed by an international convention in Paris in November, and I think it will be found that some medium other than water is necessary.

I would put it this way—two extremes: You have an asphalt pavement here. Now an asphalt pavement is good at all times and at all seasons, except in certain locations. The surface is good; it is good for automobile or wagon or anything you put on it. Now, well-constructed asphalt pavement doesn't wear. There is absolutely no wear to it. I made an inquiry some four or five years

ago as to what the wear was and they said there was no wear. On some I have put down eight years ago, with a heavy travel, there is absolutely no wear. What is the reason? You haven't got a hard road. And I wish to say this, that I am going to retire as quickly as possible from hard-road construction. You want an elastic road; you want a road that has resiliency, that won't be ground up by the horses' feet or the wagon tires or the automobile. The other extreme is the construction of the roads in California. They cover them with shell and sprinkle them twice a year with the heavy Southern asphalt oil. Now, there are the two extremes of road; those do not wear out; and the idea that I had in my mind to-day is that future road development depends on the establishment of roads that won't wear. If you have no wear, you have no dust and no maintenance, and that is the ideal proposition. Now, my suggestion is that instead of working along on the theory that you have, we ought to work on theory of these elastic roads.

The other thought is this, that in the construction of congested traveled roads the bonding material should be some artificial product. I do not throw this out inadvisedly. Curiously enough, one State to-day is now building their roads with a tar mixture, and the State engineer estimates that the extra cost of making that tar road — not putting it on the surface, but incorporating it as a constructive part of the road — is thirteen cents a square yard extra to what the ordinary macadam would be.

Those two thoughts I desire to impress on your minds, and those are the only two thoughts I want to give you.

PRESIDENT HOTCHKISS: — Gentlemen, do not forget the theater party to-night; do not forget the banquet to-morrow night or the practical demonstration to-morrow afternoon. We begin to-morrow morning at ten o'clock. The National Grange will have charge and there are some most excellent speakers on the program.

(Convention adjourned at 6 P. M. until Wednesday, July 8, 1908, 10 A. M.)

SECOND GOOD ROADS SESSION

WEDNESDAY, JULY 8, 1908, 10 A. M.

PRESIDENT HOTCHKISS:—Conventions are proverbially late in assembling, but we will do as we did yesterday morning, we will begin at nearly as possible the hour fixed, because the program is long. Many of the delegates are still at the Iroquois, but will be on their way in a moment.

Yesterday we had with us the President of the American Road Makers' Association, and most of the speakers were, in one way or another, connected with that body. To-day is the farmers innings, and the principal speaker of the day, as well as the presiding officer of the session during the addresses, will be the Master of the National Grange. We motorists know our impotency when it comes to securing important legislation in some of the States and in the Federal Congress for the good roads cause. Though many of our members are prominent in their States and have more influence than their single vote, yet we are such a drop in the bucket to the million members of the National Grange, that the quasi-alliance between that body and the American Automobile Association at this time is vastly important and should bear fruit. But before introducing the speaker and the chairman, I call upon the Chairman of the Committee on Resolutions for his report — Mr. Terry.

CHAIRMAN TERRY:— On behalf of the Committee on Resolutions appointed at yesterday morning's session, I present the following resolutions for your consideration :

1. **RESOLVED**, That, in view of the signal success attending the Convention held this year, a National Convention of a similar character be held annually, and that the national committee having in charge such convention for the year 1909 be as follows :

Robert P. Hooper, Philadelphia, Chairman A. A. A. Good Roads Board.

Chairman Ex-Governor Nahum J. Bachelder, Concord, N. H., Master of the National Grange.

James H. MacDonald, Hartford, Conn., President of the American Road Makers' Association.

Charles Thaddeus Terry, New York, Chairman A. A. A. Legislative Board.

S. D. Waldon, Detroit, Mich., representing National Association of Automobile Manufacturers.

Frank B. Hower, Buffalo, N. Y., Chairman A. A. A. Touring Board.

Alfred Reeves, New York, representing the American Motor Car Manufacturers Association.

William H. Hotchkiss, Buffalo, N. Y., President American Automobile Association, ex-officio.

Frederick H. Elliott, New York, Secretary American Automobile Association, ex-officio.

2. **BE IT RESOLVED**, By the representatives of the National Grange, the American Road Makers' Association and the American Automobile Association, in National Convention assembled, that each of these bodies will, in the ensuing sessions of State legislatures and of the Congress of the United States, devote its best efforts to and enlist the coöperation of all its constituents and affiliated bodies in the movement for good roads, through federal aid or through both federal and State aid, and that the two last named organizations, the National Grange coöperating as it may be authorized at its convention to be held in Washington, D. C., in November, 1908, shall put forth their, and each of their, best efforts to secure the enactment of the Uniform State Motor Vehicle Law prepared by the American Automobile Association, and the enactment of the Federal Automobile Registration Law; and, to that end, that each of these three national associations, so far as they may be authorized by their respective organizations, instruct its State bodies and its State representatives to give continuous and persistent aid in their respective localities to the measures in question.

3. RESOLVED, That the President of the American Automobile Association be and he hereby is authorized to appoint an Executive Committee of twenty-one members, including the nine members composing the committee upon the National Convention of 1909, the duty of which executive committee shall be to see to it that the plans and purposes determined by the National Convention of 1908, shall be carried out to their consummation, and that the measures approved by the Convention be pressed to passage and enacted into law in the various States of the Union and by Congress.

4. BE IT RESOLVED, That such Executive Committee shall have, and is hereby given, power to add to its membership, by a two-thirds vote of its members, the representatives of such other body or bodies as may add strength to the movement for good roads and fair legislation, such additional members not to exceed five in number.

5. RESOLVED, That it is the unanimous sentiment of the representatives of the National Grange, the American Road Makers' Association, and the American Automobile Association, in national convention assembled, that the Currier Good Roads bill, now pending in Congress, should be enacted into law.

6. BE IT RESOLVED, That it is the unanimous sentiment of the representatives of the National Grange, the American Road Makers' Association, and the American Automobile Association, in national convention assembled, that, not only is it right and proper, but it is also most expedient and of vital importance to the interests represented, that all users of the highways, and, particularly, automobilists, should be extremely careful and be always keen and alert to observe strictly all the courtesies and decencies of highway travel, and should make it their constant aim to persuade, or, if necessary, to compel, those of their brother automobilists who are inclined to abuse their privileges upon the highways to conform to those rules of fair and reasonable conduct which already govern the vast majority of the users of motor cars.

7. BE IT RESOLVED, That the Executive Committee be, and it hereby is, authorized to take under advisement the desirability of the appointment by the President of the American Automobile Association of a committee to consider the best method of construction of brick, macadam, asphalt, and other kinds of roads, enlisting, to that end, if desirable, such aid and information as they may be able to secure from engineers and those technically familiar with the subject and to report its conclusions at the next annual convention.

8. RESOLVED, That the addresses delivered at various sessions of this National Good Roads and Legislative Convention of 1908, together with these resolutions, be printed in pamphlet form and sent to the members of the three association represented at the Convention and to each of its guests in attendance thereat, at the discretion of the Executive Committee.

(Signed.)

CHARLES THADDEUS TERRY, Chairman ;
JOS. W. HUNTER,
N. J. BACHELDER,
ROY F. BRITTON,
STEPHEN RYAN,
C. GORDON NEFF,
GEORGE C. DIEHL,
F. W. GODFREY,
PAUL C. WOLFF,
F. A. DERTHICK,
A. W. CAMPBELL.

I move the adoption of these resolutions.
(Motion seconded and carried unanimously.)

† PRESIDENT HOTCHKISS: — As is known to many of you, three of the addresses (one of them a formal address, and the others brief) which were to have been given yesterday afternoon were postponed until this morning because of the intense heat of the day. Those three addresses will be put on the programme after the principal address of the session by Governor Bachelder. I now take great pleasure in introducing to you as your Chairman, and as the first speaker of the day, the former governor of New Hampshire, now Master of the National Grange — Governor Bachelder. (Applause.)

FEDERAL APPROPRIATION FOR ROAD IMPROVEMENT

By Former Governor N. J. BACHELDER, of New Hampshire,
Master of the National Grange

MR. CHAIRMAN AND GENTLEMEN:

As Master of the National Grange, I am pleased to have this opportunity for presenting some considerations of this important question from the farmer's standpoint. The farmers have a common interest with all other advocates of road improvement, and, although there may be differences of opinion as to methods, we are all working for the same ultimate purpose — the establishment of a complete system of properly-constructed roads in all sections of the country. How such a road system can be secured is a problem that more directly concerns the farmers than any other class, and it may be safely said that the question of better roads is essentially a farmer's question.

It is true that all industrial interests are affected by the nature and condition of the roads over which the products of our farms are transported to market, but it is the farmers who suffer most from the inferior roads which constitute so large a percentage of the road system of the United States. And I am confident that it is to the farmers that we must look as the active force and influence that will secure the enactment of the legislation needed to bring about that improvement in road conditions that we all desire.

And here I wish to refer briefly to the seeming conflict of interests between the farmers and the owners of motor vehicles, which has in some districts given rise to pronounced antagonism and hostile legislation. That since the introduction and general use of the automobile there have been many instances of gross disregard by the drivers of motor vehicles of the public's right to the use of our highways, cannot be denied. The coming of the automobile has

brought with it the victims of speed mania, who in their mad desire to beat records drive their high-powered machines along country roads at a speed dangerous to all others using these roads. It is only natural that the farmers, on whom in most sections of the country the chief burden of constructing and maintaining public roads has fallen, should resent the violation of their right to use these roads in safety, and should have sought to have severe penalties imposed on the offending parties. For myself I may say that I believe that the attitude of the farmers toward the automobile was to a large extent justified by the outrageous conduct of drivers of these vehicles. It is doubtless true, as is often asserted, that the "speed maniacs" constitute a very small percentage of the total number of automobile users. I am pleased to know that the abuses complained of in the earlier years of the automobile have to a large extent disappeared, and trust that through the influence of the automobile clubs and associations there may be brought about a willingness to respect the rights of all the people to the use of the highways, that will give no occasion for hostility toward the orderly, reasonable use of the automobile.

I realize that the motor vehicle is here to stay, and that it is a factor that must be taken into consideration in discussing the improvement of our roads. The question as to how far it creates new problems of road maintenance and repair I must leave to the expert road-makers, and would only suggest that it is important that all the facts relating to the effects of automobile traffic on improved roads should be ascertained, before raising needless alarm over the alleged destructive tendencies of the inflated rubber tire.

One phase of the development of the motor vehicle that is of special interest to the farmers, is the possibilities of the commercial truck, or power-operated farm wagon. It would seem that here is a very large field for an industry that will be profitable to both the farmers and the manufacturers of such vehicles. With improved roads the use of motor trucks for the conveyance of farm products to market should become general in all sections of the country thus enabling the farmer to market his crops more quickly and at less expense. I believe that no injury is caused to macadam roads by these commercial vehicles, but, on the contrary, their solid rubber tires operate practically as rollers and serve to keep such roads in good condition.

In this connection, I wish to emphasize the fact that the road question in the United States is not only a farmer's question, but, first of all, a question of the commercial use of the highways. To the farmer the roads are the means of transporting his products to market, and it is from this point of view that the farmers will insist that all plans for road improvement must be considered. Over our country roads there are annually hauled nearly 200,000,000 tons of staple farm products, and if to this we add the smaller products, such as fruit, milk, eggs, etc., and the fertilizers, feed, coal, lumber, etc., taken from the town to the farm, we will have an aggregate of at least 250,000,000 tons carried for long or short distances over our highways. These figures show the enormous importance to the farmers of a system of improved roads that would enable them to reduce the cost of hauling this volume of freight from one-half to two-thirds of what it now costs them. It is estimated by competent authorities that over the ordinary country road the farmer draws an average load of 2,000 pounds an average distance of twelve miles, at a cost of \$3, and it has been shown that with improved roads the cost of moving the same load that distance would be but little more than \$1. Making allowance for exceptional cases it is certain that the cost of transporting a ton of farm products over improved roads is not one-half of the cost over earth roads. Under a general system of improved roads the cost of hauling these 250,000,000 tons

would be cut in two, thus effecting a direct saving to the farmers of the country of at least \$125,000,000 annually.

Nor is this the only saving to the farmers that would be effected through improved roads. Because of bad roads the farmers or their hired men must now spend twice as much time on the road as would be required under a proper road system. In bad weather the roads are often impassable, so that time must be taken from farm work in fine weather to get the crops to market. With a system of good roads over which farm products could be hauled in one-half of the time now necessary, the farmers would have just so much additional time for other work, and could, therefore, greatly increase the productivity of their farms.

It is not needful that I should occupy your time with any extended statement of the benefits of good roads. The direct saving in dollars and cents is only one of the many advantages to the farmers that would result from improved roads. There can be no question but that the deplorable condition of our roads is to a large extent responsible for the dissatisfaction with country life, which drives so many of our people into the towns and cities. Bad roads make farming unprofitable and undesirable. They increase the solitude of life on the farm by making more difficult and less frequent visits to the neighbors, and to the villages and towns. They limit opportunity by forcing the farmer to spend twice as much time in going to and from his markets as he would with a good road system. In short, the greatest drawback to farm life to-day is the condition of the average country road, and the improvement of our roads is of greater importance to the farmers than any other suggested legislative reform.

Nor is it necessary to dwell upon the inferior character of our existing roads. The fact that out of a total road mileage in the United States of 2,151,570, only a fraction over seven per cent. can be called improved, speaks for itself.

The facts as to present conditions have long been known to the thoughtful farmers of the country, and they have been the first to realize the urgent need for radical reforms in methods of road construction and improvement. It is true, that the farmer is

naturally conservative, and perhaps has not taken up the subject of better roads as quickly as the residents of towns and cities would act in a matter vitally affecting their interests, but from my wide acquaintance with the farmers of all sections of the country I am prepared to affirm that they are as a whole awake to the importance of this subject, and ready to do all in their power to further the work of road improvement.

The farmers recognize the need for better roads, and realize how largely such roads would contribute to their comfort and prosperity. They are anxious that well-considered plans for road improvement should be submitted to the State and national legislatures, and will do all in their power to aid in securing the adoption of such plans.

It may be asked why, if the farmers favor good roads, the work of road improvement has not made greater progress. The chief reason is to be found in the lack of money required for the construction and maintenance of improved roads. Many farming sections of the country are still sparsely populated, and the economic condition of the farmers in general is such that they regard it as impossible for them to contribute in taxes the funds necessary for the construction of a permanent road system. While it is true that it would pay even the poorest communities to increase their expenditures for road improvement, it may be said that as a general proposition the means of the farming districts are wholly inadequate to provide for a proper road system.

In view of these conditions, the farmers have in recent years come to realize that the road problem is not merely a question for the communities through which the roads run, but one that concerns the people of the States and of the nation as a whole. They are convinced that as the workers of the towns and cities, the manufacturers, merchants, and, indeed, all classes and interests, are affected by present road conditions, the people of the entire country should aid in establishing a better system. Believing that appropriations for this purpose should be made from other sources than local taxation they have aided the movement for State aid for highway im-

provement which has been in progress for some years past, and their votes have aided in securing action on this matter in various States.

In many States, however, the same conditions which prevent the construction of the needed mileage of improved roads make it impracticable to secure the desired appropriations by the State. The necessity for better roads is admitted, but it is not believed that the States are justified in increasing their tax rate to the extent needful for this purpose.

The general recognition of these conditions has in recent years given rise to a growing demand for national aid for public road improvement. It is urged by the farmers that they do not receive a fair share of the benefits of the money raised by taxes upon the people of the whole country, and that the improvement of the public highways is as equally deserving of federal assistance as is the improvement of our waterways, for which large amounts are annually appropriated by Congress.

The expenditures for river and harbor improvement are justified on the ground of their importance to the trade and commerce of the country as a whole. The advocates of national aid for better roads believe that the improvement of the public highways is of even greater importance to the people of the entire country, since this is a matter that affects every industrial interest, and will benefit the trade and commerce of every section of the United States.

I have recently had brought to my attention in a striking form the facts as to the relatively small proportion of the nation's revenue that is devoted to purposes affecting the great agricultural interests of the country. Statistics of the exports from the United States for the ten years ending with 1906, show that nearly sixty per cent. (59.13, to be exact) of the exports during that period were the products of our farms, the total value of these products amounting to more than eight billions of dollars. Yet, for the benefit of the industry producing these enormous values, there was expended during the same period less than one per cent. of the total federal expenditures, met chiefly by indirect taxes paid largely by the farmers

of the entire country. During that period Congress appropriated \$180,537,000 for the improvement of our waterways and harbors, but not one dollar (unless the few thousands annually appropriated for the office of Public Roads, United States Department of Agriculture, are so regarded) for the improvement of our highways.

The farmers are determined that this state of affairs shall not continue. They have made up their minds that Congress must devote a share of the annual appropriations to the construction and maintenance of our roads. They are not committed to any special policy as to how these appropriations shall be expended, so long as care is taken that the money is wisely devoted to the purpose for which it is intended. Some of us believe that the creation of a National Highways Commission, with power to organize an efficient corps of trained road engineers, who, in

coöperation with the State and local highway authorities, would supervise the disbursement of the federal grants, would be a satisfactory solution of the problem. This is, however, a matter to be worked out by the committees of the House and Senate which will pass on the legislation to establish the general policy of national aid, and I am confident that a plan will be devised that will be satisfactory to Congress, the State and local road officials, and the people of the country as a whole.

National aid will not, as some persons have suggested, lessen the interest of the States, counties, and townships in road improvement. On the contrary, the roads constructed with federal assistance will serve to stimulate everywhere the desire for better roads, and will be the means of ultimately giving the entire country a uniform system of scientifically constructed public highways. (Applause.)

CHAIRMAN BACHELDER: — I felt very highly honored when I was invited to take a place on the programme of this Convention, but still felt more highly honored in being unexpectedly called upon to preside at the morning session. I will not detain you with lengthy remarks, but just long enough to say that during the two years which I served as governor of the little State of New Hampshire I spent two days with the automobilists in the White Mountains, and I have said many times, both publicly and privately, that those two days were the most enjoyable days that I had during my administration in the State; and I say that it was with a great deal of pride and pleasure that I pinned upon my coat the badge showing my membership and official place in this organization, which was handed to me yesterday. I consider it a great honor to be permitted to be associated with you, representing the farmers, as I do, in this very great and important work.

The next address will be upon the "Effect of Automobiles on Macadam Roads and the Question of Preservation under New Conditions." To discuss this subject we are very fortunate to have with us a gentleman who is perhaps the highest authority in this country, Hon. L. W. Page, Director of the Office of Public Roads in the Department of Agriculture, Washington, D. C.

EFFECT OF AUTOMOBILES ON MACADAM ROADS AND THE QUESTION OF PRESERVATION UNDER NEW CONDITIONS

By L. W. PAGE, Director of the Office of Public Roads in the Department of Agriculture

MR. CHAIRMAN AND GENTLEMEN:

It is to Tresaugot, Engineer in Chief of the District of Limoges, that we are indebted for the first scientific treatise on broken stone road construction. He clearly specified several types of broken stone roads, one of which, in quite general use throughout Eng-

land and America to-day, is known as the Telford road. It is a matter of interest that while roads of the Tresaugot type are in extensive use throughout England and America they are rarely seen in France, the macadam type having almost entirely superseded it. Tresaugot's report to the Council of Bridges

and Roads, written in 1775, on road maintenance is, in my opinion, the best ever written on the subject. Following Tresaugot, McAdam made his splendid contribution. Since the time of these great engineers many improvements and modifications have been made in road building, the most important of which have been largely brought about by time and labor-saving machinery.

It is not my purpose to consider the history of road building, and I have only alluded to it for the purpose of showing that the broken-stone road of to-day has been of slow development. Although the methods of construction vary somewhat in different countries and different localities, the main object sought has always been the same; to withstand the wear of iron-tired horse vehicles at a reasonable cost. Until the last decade these conditions have been successfully met and the broken-stone road was all that could be desired. Under modern motor traffic, however, the conditions have changed. Roads which formerly withstood the wear of horse vehicles are now quickly denuded of the fine binding material, and become loose and disintegrated. On the principally traveled roads, the great clouds of dust raised by rapidly-moving motor vehicles are not only a great waste of the material of which the road is composed, but this dust is carried by the wind and disseminated over adjacent property to such an extent that it has, in many instances, affected the value of real estate as well as the comfort of near-by residents and pedestrians. The road surface becomes so loosened that water makes its way to the foundation, and, in general, the cost of maintenance has very greatly increased. With a constantly-increasing motor traffic, these are, briefly, the conditions we find to-day, and which have to be met. The problem is such a serious one that it has called forth the best efforts of highway engineers in every civilized country. By the proper use of bituminous materials, the mechanical difficulties have in a large measure been overcome, but the cost of such treatment is so great that it is hard to believe, at present, that such methods can even be generally used on the many thousand miles of rural highways affected.

As already stated, the broken-stone road

has been developed to withstand the wear of iron-tired horse vehicles, and has met successfully the demands of suburban and rural traffic until the advent of the motor vehicle. When in its highest state of perfection, the rock from which such a road is made is so suited to the volume and character of traffic which passes over it, that the amount of dust worn off is only sufficient to replace that removed by wind and rain. The dust remaining should be just enough to bond the surface stones thoroughly, forming a smooth, impervious shell. A road of this character wears uniformly under the traffic for which it was destined, and when properly maintained always presents an even surface.

When such a road is subjected to continuous fast motor traffic, entirely new conditions are brought about. Since the advent of this new traffic, its effect on the road has been the subject of much study, by both highway and mechanical engineers, and many highly interesting and ingenious theories have been advanced to account for the injury to roads derived from it. While the slipping of the tire, skidding, shape of car body, suction and other causes contribute more or less to the injury of the road surface, I think it is quite generally agreed that the suction of the pneumatic tire on the surface is the main cause of the trouble. The object of this paper is to show, however, that the great tractive force, or shear, exerted by the driving wheels of motor cars is the main factor of injury.

It has been demonstrated by connecting both front and rear wheels of motor cars with separate speedometers that there is a considerable amount of slipping of the driving wheels on the road surface, and, on account of the numerous irregularities on the average road surface, this is what should be expected. This slip, due to the decrease in the bearing surface of the tire, undoubtedly increases the amount of finely divided material of the road surface thrown into the air. The increased amount of damage done on this account will be in proportion to the irregularities in the road and the speed of the car. While it is an important factor, its effect is greatly reduced if the road has a smooth surface.

The effect of skidding is only observable

on roads that are subjected to a considerable volume of fast motor traffic, and only then on curves. The result of this is to shift the crown of the road tangentially to the gutter. While very annoying to those having the maintenance of such roads, it is not one of the serious or costly causes of injury, as it is generally confined to rather sharp curves.

It is my belief that too much stress has been laid upon the effect of the car body and its shape in removing dust from the road surface. After a number of experiments and observations, I am convinced that little or no dust is removed from the surface by this means, except on very dusty roads. The dust lifted by the wheels, however, is greatly accelerated by the action of the car body and the air currents set up in its rear, which has much to do with the dissemination of dust. This is one of the important factors to be considered, as much of the dust lifted by the wheels would not be carried from the road but for the air currents developed by the car body, and these, of course, are much affected by its shape.

Probably, no single factor has been considered of as much importance as the so-called suction of the pneumatic tire. Some writers have even gone so far as to maintain that a slight vacuum is created in the rear of each tire, which is sufficient to lift the finer particles of the road surface in the air. In my opinion, entirely too much importance has been given to this phenomenon, for if it exists at all, its effect is probably so slight that it can be considered a negligible quantity, and I shall endeavor later on to give my reasons for this view.

Beyond a doubt, the most injurious action of motor traffic is the great tractive, or shearing, force exerted by the driving wheels of these cars. The fine dust which ordinarily acts as a cementing agent to the road surface is thrown into the air to be carried off by the wind, or that remaining on the road is so loosened that it is easily washed into the gutters by rain. The pneumatic rubber tire wears off from the broken stone of the road little or no dust to replace that thus removed, and the result is that the stones become loose and rounded, giving the greatest resistance to traction and allowing water to make its way freely to the foundation of the road.

For the purpose of studying this phenomenon, I recently conducted a series of tests with motor cars of various shapes and sizes, from the 4,000 pound limousine to the small runabout. These cars were run at various rates of speed, and their effect studied on a section of average broken-stone road. The most interesting result was obtained with a sixty-horse power car stripped for racing. The wheels of this car were thirty-six inches in diameter, with four-inch front tires and four and one-half-inch rear tires. The weight of the car with driver and mechanism was 2,800 pounds. This car was driven over a level section of broken-stone road at speeds varying from five miles an hour to sixty miles an hour. The road used was a section of a Government road which had been resurfaced two years previous to the test and was in very good condition. Up to fifteen miles an hour, little or no effect was produced on the road, and even at twenty miles an hour it was judged by those present that no serious damage was done. From twenty miles an hour on, however, the effect was markedly noticeable with each increase in speed. At a point on the road designated for the proper speeds, photographers with the necessary high-speed cameras were stationed for the purpose of taking photographs from different points of view of the effect produced. I have here some photographs which I think illustrate the action of the wheels very clearly. They show the car traveling at various rates of speed from five miles an hour to sixty miles an hour.

The chief point of interest in these photographs is the difference in effect on the road between the front and rear wheels. Now, if it is true, as has been claimed, that a vacuum is formed in the rear of the pneumatic tire, or that it possesses any power of suction, this should be equally true of both front and rear wheels. I am convinced after much observation that this is not the case, and I think this point is illustrated by the accompanying photographs.

To sum the matter up briefly, the pneumatic tire, or any type of tire which propels a vehicle, must have sufficient tractive resistance to overcome the load of the vehicle. This, of necessity, must cause a shear on the road surface, which varies with the weight

and speed of the vehicle. The broken stone road surface has little power to resist a shearing stress, consequently, the fine material of which it is composed is thrown into the air. Once lifted from the road, this fine material is subject to the effect of air currents generated by the car body, and subsequently by the wind. In this manner large quantities of the material of which the road is composed is carried from the road and must eventually be replaced, or the road will rapidly deteriorate. This action may be greatly accelerated by other causes, but in the main it is sufficient to account for the observed results. Aside from the dust carried from the road in this manner, this shearing force of the motor car has a decided disintegrating effect on the surface of the road.

Although the facts stated above may be considered as a severe arraignment of the automobile in its relation to the public road,

it should not be forgotten that there is another phase of the subject worthy of serious thought. The application of mechanical arts for the comforts and convenience of civilization must inevitably introduce new problems, which can only be solved by patient experiment. In presenting new problems, this influence generally furnishes the means of solving them. In this way, the motor vehicle, while tending to destroy broken-stone roads, has had an improving influence, not only in the building of many miles of better highways, but also in rendering most urgent the study of road preservatives. Dusty roads existed before the advent of the motor vehicle, and if the experimental work now being done proves successful, it will be a demonstration of the really beneficial effect motor traffic has had upon the development of the art of road building. (Applause.)

CHAIRMAN BACHELDER: — Like the Legislature at its closing session, we have set the clock back upon yesterday's session. I will say that there are two very brief talks still to be made upon the order of yesterday, after which we will take up the programme as announced for this morning. The first is upon "The Lincoln Way" by Robert B. Caverly, President of the Automobile Club of Washington, whom I take pleasure in introducing to you.

THE LINCOLN WAY

By ROBERT B. CAVERLY, President of the Automobile Club of Washington

MR. CHAIRMAN AND GENTLEMEN OF THE CONVENTION: —

Next year March is the centennial of the birth of Abraham Lincoln, possibly the greatest citizen that this country ever produced. (Applause.) Strange as it may seem, no fitting memorial has ever been erected to the memory of this great man. Congress has not been amiss to the fact that the time would shortly come when Mr. Lincoln's great name would have to have some fitting memorial, and four years ago, in its Committee on the Library of the House, it sent to Europe Mr. McCleary, then representing the State of New York, and who now occupies the position of Second Assistant Postmaster General of the United States. Mr. McCleary was instructed to visit all parts of Europe and thoroughly investigate all the great memorials that had been erected

since the time when men have become great. After spending five months he came back with the conviction that the most lasting, the most impressive memorial in the old countries that he had visited was the great Apian Way in Rome, 160 miles in length, built of cement, lined on either side with the tombs of the great ones of Rome; and it has been made up into a report which will soon be given to Congress, that a similar road erected in this country would be the most fitting way to memorialize this great President.

Mr. Lincoln was not a horseman. It is related that when he visited General Grant on the battlefield before Richmond, when he was mounted on a somewhat restive horse, the horse, endeavoring to scratch a fly off, got his foot entangled in the stirrup. Mr. Lincoln said: "Well, if you are going to

get on, I will get off." Hence, an equestrian statue would not do. In Washington, we have an obelisk erected to George Washington, therefore we cannot well erect another to Mr. Lincoln. It was proposed that Mount Vernon might in some way be fitted to Mr. Lincoln, but that belongs to Washington also. The bridge across the Potomac to Arlington belongs to Grant — if it is ever erected.

Now, the turning point of the war was Gettysburg, seventy-seven miles from Washington, and there is the most beautiful park that I ever visited, on which the government has expended seven and a half million dollars. And, gentlemen, it is almost inaccessible; even to get there by steam road means a long detour by way of Baltimore; and to get there by automobile means about five hundred dollars' worth of tires.

Sixteenth Street, which is one of our finest streets, and located at the foot of which is the White House, which Mr. Lincoln occupied, extends due north. It is the intention of this committee, if this report is adopted by Congress, to extend Sixteenth Street to Gettysburg, making it 150 feet wide, line it on either side with poplars; and at the city line erect a magnificent quadrangle with Lincoln's great Gettysburg speech emblazoned on an arch. The purpose of this way is so well conceived, gentle-

men, that I am sure the States, and the patriotic societies of the United States, would gladly contribute towards its building. It is estimated that the cost would be about four million dollars. A prominent architect in this country is now engaged in making a preliminary survey of the approach to Washington, showing the quadrangle and the arch.

This matter will be brought up in Congress at its next session, but I am sorry to say, gentlemen, it is going to be a minority report. The larger portion of the committee are in favor of building an enormous building in Washington; but it seems to me that with Gettysburg, which was the turning point of the war and so intimately associated with Mr. Lincoln's greatness, at the other end of the road, we should have a driveway that can be reached by all the thousands of tourists that come to Washington every year. I believe it is not the purpose of the committee in charge of this matter — the minority end of it, rather — to ask automobilists to pass any resolution advocating this road, for fear that those that do not own automobiles will stick a knife into it; but I just want to say, gentlemen, that when the matter does come up in Congress next year, it would be very well if you would drop a line to your Congressman advocating this great way. I thank you. (Applause.)

CHAIRMAN BACHELDER: — The next on the programme is "Good Roads and their Benefits," by William L. Raeder, President of the Board of Trade, Wilkes-Barre, Pennsylvania, whom I take great pleasure in introducing to you.

GOOD ROADS AND THEIR BENEFITS

By WILLIAM L. RAEDER, President of the Board of Trade of Wilkes-Barre, Pa.

MR. CHAIRMAN, MEN OF THE THREE A'S, THE NATIONAL GRANGE, AND ALL OTHERS:

I am greatly indebted to the Wilkes-Barre Automobile Club for the courtesy of being here to participate in the deliberations of this Convention. My status is, perhaps, better described by telling you of the colored man in the South who was given a twenty dollar gold piece and asked if he could change it. He said, "Mas' Cap'n, I'se can't change a twenty dollah gol' piece, but I tell you, I'se much obliged foh your courtesey."

The subject — Good Roads and Legislation — is comprehensive and significant of the millennium, if intelligently treated. Good Roads in a community may be considered a fair index of the degree of its advancement in civilization, good wholesome laws, provided they are actively enforced, throw a halo of respect and consideration about the people they are intended to govern. Unfortunately, we are short on good roads, and have been too indifferent in the past in the enforcement of laws intended for

our benefit; but, thanks to the law of equalization, the three A's step into the breach and we are here to start the little ball rolling which I hope in time may become the great avalanche of progress for good roads and legislation incident thereto.

I am not here as an expert in road building, nor as an active automobilist; professionally, I am an active member of the Luzerne County Bar in Pennsylvania. My automobilistic claims are limited to the courteous invitations of my friends for an occasional run. Hence, I may be considered a layman and unbiased in my comments.

I come here representing The Wilkes-Barre Automobile Club as a member of the three A.'s, and representing incidentally The Board of Trade of the city of Wilkes-Barre, of which I have the honor to be President. Both organizations are always awake, alive, and actively astir; our Board of Trade with its membership of six hundred, and our Automobile Club with a membership of one hundred and ninety-five, have "hooked up" together on the subject of good roads, and are doing stunts directly beneficial to every one who travels the public highways of our county for business and pleasure. We have caused to be condemned and purchased by Luzerne County two toll turnpikes, at an expense to the county approximately of \$30,000. We have caused to be instituted condemnation proceedings for the only remaining toll turnpike in the county, with success in sight. We have caused to be instituted proceedings, too, for the freeing in our county four toll bridges. We have caused to be let contracts for the building of State and county roads, both brick and macadam, of stretches aggregating many miles. Notably, the road from Wilkes-Barre to Pittston, eight miles, the road from Wilkes-Barre to Nanticoke, four miles, the road from Ashley to Mountain Top, four miles, and several shorter stretches in different sections of our county. The speaker was instrumental in perfecting details for the construction of the first road in Luzerne County under the jurisdiction of the State Highway Commission, so ably cared for by State Highway Commissioner, Joseph W. Hunter. In this case it became necessary to invoke the power of the Courts of Luzerne County to compel the county commissioners

to ask for State aid. These details have been perfected within about three years. I quote these for the purpose of showing what can be accomplished by concerted action and an idea single to education and progress along these lines.

I am here in my representative capacity and personally to study these propositions, learn what is good, discard what is bad, and carry back with me pertinent object lessons for the benefit of my constituents, whereby we may continue to be active leaders with the pennant of progress and accomplishment nailed to our mast, rather than follow in the beaten path of the trailer.

In addition to good roads and legislation incident thereto, the Wilkes-Barre Automobile Club stands for good fellowship, courtesy and consideration to the craft and respect and equal rights to the layman. We seek to banish from the public highway, the insane driver who forces his car along, regardless of the rights of others. Instance this resolution as passed by our Club:

"All motorists using the streets of this city or built-up sections of suburban towns are requested to keep the mufflers of their automobiles closed, and to regulate the oiling of their engines so as to avoid having the exhaust a disagreeable and offensive smoke."

And, gentlemen, right here is the distinction in this case. You may pass all the laws in Christendom, and if you struggle with an unwilling witness you have an up-hill job. This question must come, this question of equal rights to the layman must come within the club, must come from the club; and I am grateful to have heard the resolution read this morning by Chairman Terry, and it will go out to the world that you intend among yourselves to correct that which creates more feeling against you than any one thing that you may do.

In other words, we seek to gain the confidence and good will of all citizens. That we have succeeded, I need mention only one instance. At our recent hill climb one of our respected citizens, Mr. John W. Hollenback, and who, by the way, does not own an automobile, gave to us one thousand dollars for a trophy; other trophies, ranging in price from seventy-five to two hundred dollars, were freely donated at the same time

by others; all tending to show that our line of conduct toward our fellow citizens has caused them to become our friends and not our enemies. With a combination such as this, who can foretell or picture the measure of good results? Pardon me for confining my remarks thus far so closely to my own vine and fig tree, but it was for the purpose of quoting an object lesson, which demonstrates that "In unity there is strength," and incidentally suggest, we want you all to come to our Hill Climb next year. Stop, look, and wait for our announcement. I challenge contradiction when I say that for testing all the qualities of a car; the safety and comfort the picturesque mountain side fringing the track affords the spectator, the ease of access to our beautiful Wyoming Valley and the course, and the joyous hospitality extended by our citizens, Giant Despair Mountain, Wilkes-Barre, and its Automobile Club, is "IT."

Just one or two suggestions and I am done; this for the benefit of my Pennsylvania friends.

First. Let us seek to impress upon those who represent us in the Legislature that we want good roads, that their tenure of office depends upon good roads, and that we will not be satisfied with a penny-wise, pound-foolish appropriation for this purpose.

Second. That we want legislation whereby all road taxes in our State shall be a money, and not a work, tax. This to be imperative, and this tax to be applied under the jurisdiction of the State Highway Commissioner.

With these things accomplished the rest is easy. The people of our State have already learned the alphabet of good roads and now want to read.

Gentlemen of the Convention, I thank you for the courtesy of extending to my constituents through me this hearing. Depend upon it that you will find us a helpful ally, along consistent, legitimate lines; socially, our latch string is out, and you are always welcome within our gates. Come and be refreshed. I thank you. (Applause.)

CHAIRMAN BACHELDER: — We will now set the clock ahead and take up the business of to-day's session. Near the end of the programme is the topic "Treatment of the Earth Roads," a subject of great importance, and I understand that arrangement has been made with the speaker to rise in his place upon the floor at this time and in two minutes to outline to you what he is to tell you in his address later on. I have the pleasure of calling on Mr. D. Ward King, of the Missouri State Board of Agriculture, to occupy two minutes, and I will ask the President, who is a man of authority, to hold the watch.

D. WARD KING, of Missouri: — *Mr. Chairman*, how will it do for me to hold the watch?

One word of explanation. The gentleman who comes last on the program, and is therefore, just one degree more unfortunate than I have been, has consented that I should come last, in his place really, that I may not be embarrassed by feeling that somebody is to follow me. At the last end of this programme, therefore, I will try to tell you what we have been doing in the West with the split-log drag. I shall try to talk to you about twenty minutes. At the end of that time, when I have said a great many things that you won't believe at all, I will submit myself to your cross-questioning. I thank you, Mr. Chairman.

CHAIRMAN BACHELDER: — "New York's Highway Code." I presume there is no person in the United States who has a more extended reputation for his loyalty and interest in promoting good roads than the gentleman who is to speak upon this topic. I have great pleasure in presenting to you Senator Jotham P. Allds, of New York.

NEW YORK'S HIGHWAY CODE

By JOTHAM P. ALLDS, State Senator of New York

MR. CHAIRMAN AND FELLOW DELEGATES:

In discussing the subject of the new Highway Code recently adopted by the State of New York before such a gathering as this,

there is a natural embarrassment, because there are gathered here two distinct classes of persons who are interested in the subjects sought to be attained by the National

Association. Through the invitation of the State engineer there are gathered here many supervisors and highway commissioners of our State. These men are naturally more deeply interested in a discussion of what the code actually is and how it operates. On the other hand, there are the visiting delegates from all over the country whose point of view is naturally, not the details of the code, but what was the conditions which made a new code necessary, and what were the lines along which it was drawn, and what were the fundamental principles which controlled the Joint Highway Committee in reaching its conclusions. Then, too, while one may have some confidence in the work of the committee, one naturally hesitates to claim for it all the good which we hope will come from its enactment when discussing it in the presence of the distinguished State highway commissioners from the adjoining States and the government experts; and I desire to say in the outset that the committee was indebted to the Federal Government for a large amount of data which enabled us to have somewhat the benefit of the legislation and the method adopted in foreign countries. From them we also secured a certain broad view of highway legislation throughout the United States. At this time it gives me great pleasure to give full recognition of the important aid which we received from the three States adjoining New York which have given the most attention to the subject of improved highways. The practical suggestions which we received from Commissioner MacClintock of Massachusetts, and Commissioner McDonald of Connecticut, and Commissioner Harrison of New Jersey were invaluable. Indeed, I am sure that the commissioners from those three States when they study New York's Highway Code, will find that, while the code is not patterned after the exact statute of any one of those States, we have sought to and have profited by the years of labor and the practical experience which they so kindly placed at our disposal.

HISTORICAL

New York's first legislation upon the subject of highways is to be found in chapter 43, passed at the session of 1797. No

material change was made in the revisions of 1801, 1813, or 1828, and there the Highway Code stood, modified by annual amendments clear down to 1890; chapter 568 of that year is simply a revision and consolidation by a very able statutory revision commission. But that revision did not seek largely to modify or in any way to furnish constructive legislation, and down to and including that date the Highway Law, so called, was the labor system pure and simple adopted from the old English Colonial Law, modified from time to time with the growth and changed conditions of this great State. Under the lead of Senator Higbie and then Assemblyman William W. Armstrong, now a senator from the Monroe District, the first law looking toward permanent improved highways was enacted in 1896. The same year also saw the inception of what is now known as the Fuller-Plank Law, which grants State aid for the repair and also the improvement of dirt roads in the various towns. The effect of these laws was to induce many towns to change from the antiquated labor system to what is known as the money system, so that when the joint committee was appointed last year we found one-fourth of the State at work under the labor system and three-fourths employing the money system. We heard from practically every county in the State. The universal voice was for a highway law based solely upon the money system.

METHOD AND SCOPE OF THE CODE

I have given this brief historical statement in order that you may understand the initial difficulties which presented themselves to the committee when we organized for the purpose of conducting a broad investigation upon which to base an intelligent revision. In a general way it may be said that in other States the Legislature has two statutes: one which relates to the general duties of the county and town officials as to maintenance and repairs of highways, and that constitutes what is known as the highway law; then they have one or more statutes which provide for a highway commissioner and specify the manner of constructing permanent improved highways. The New York High-

way Code differs from any other code in that within the leaves of this statute is to be found practically every word of statute law which in any way affects the subject of highways, whether it be the maintenance and repair of bridges and ordinary dirt roads or the construction of an improved highway at the expense of the town or county or one at the expense of the State, town, and county, or a great through highway to be built and maintained exclusively by the State. The gentlemen who are lawyers in this assemblage will recognize somewhat the task to which the committee addressed itself when I tell you that the repealing section at the end of the bill covers ten pages of closely printed matter which enumerates the 311 statutes which are repealed, being from the chapter 43 of 1797 to chapter 743 of the year 1907.

CLASSES OF HIGHWAYS

As a piece of constructive legislation it may be said that the new highway code recognizes, first, the system of State highways designated as to general direction and terminal points specifically in the statute, with the power to the highway commission within those general lines to specifically locate the through roads; second, a system of county highways built at the joint expense of the State, county, and town, which constitutes practically ten per cent. of the highways of the State; and, third, the remaining 65,000 miles known as town roads. Ninety-nine per cent. of the roads designated as State highways were taken from the great through roads heretofore petitioned for by the respective supervisors; approved by the State engineer, and recognized and approved by the Legislature when it passed the so-called Map Law in 1907. Except as it was necessary to join two improved county highways there is not a mile of road on the through roads except those which have been requested by the officials and duly approved by the State officials. The scheme of the law provides in the future for the assumption by the State of the entire expense of the construction of these through roads. In the general scheme will be found about 500 miles which have already been improved; these the State takes over and maintains hereafter.

In case the county highway is a highway which has already been approved by the board of supervisors and by the State engineer, before they can be built the question of when and at what expense they shall be improved will again be submitted to the respective boards of supervisors for their approval.

The town highways constitute the remaining ninety per cent. of our great highway system, and for their improvement and maintenance the State contributes practically dollar for dollar, although the wealthy towns with high assessment receive relatively less aid than to the extremely weak and poorer towns.

THE HIGHWAY COMMISSION

To forward this immense work which represents the annual expenditure of about five millions of dollars for construction account and from the treasuries of both the State, county, and towns upwards of two millions of dollars for repair account each year, there has been erected a State highway commission consisting of three members; one of whom shall be a civil engineer, and one of whom shall be a representative of the political party which at the last election cast the second highest number of votes. The terms of office are six years, except that when the commission is first organized it is to be for six, four, and two years respectively. The net result of this is that, first, the State gets a non-partisan commission similar to its Civil Service Commission. Second, it gets all the benefits and the permanence of an appointive commission. At the same time it is equally responsive to the people as if it were an elective commission, because each incoming governor has, on the 10th of January immediately after his taking office, the power and the duty of appointing his representative on the highway commission. This, combined with the fact that the governor has the vetoing power over all appropriations, makes his commissioner the dominant source of power in the commission. Thus the people of the State are safe-guarded on the one hand against the sudden change of policy, shifting of skilled employees, and the confusion of the work in progress; while, on the other hand, if abuses should grow up

in the administration of the department it will be fully within the power of an incoming governor to exert a controlling influence in enforcing the necessary reform.

SUBORDINATE OFFICIALS

For the technical work of general supervision and formulation of plans the State is divided in several divisions under division engineers who constitute the right arm of the commission in dealing with the work both of construction and repair. Ample clerical and engineering forces are provided for this general work. Underneath the division engineer is either a county superintendent, in case the board of supervisors see fit to appoint one, or a district superintendent who shall have charge of not more than 5,000 linear miles of highway, the district to be erected and the superintendent to be appointed by State highway commission. Underneath the county and district superintendent there is retained the present highway commissioner under the name and title of town superintendent of highways. The State highway commission is responsible for the construction of county highways and it has supervision over the maintenance of the county and of the town highways. The officer primarily responsible for the repair and maintenance of highways within the town is the town superintendent, as at present, and he is under the supervision of the county superintendent. The theory of the law has been that the taxpayers of the locality must first consent to the expenditure of money and select the local officer who is responsible for these highways and proper expenditure; but, inasmuch as the State is to contribute practically fifty per cent. for maintenance, that both as a matter of right, and certainly as a matter of wisdom, the State should exercise the general supervision, so that there may be a guarantee that the money is both honestly and wisely expended. We have borrowed from some of our sister States that system that after the general plans and specifications have been made for the improvement of either a State or a county highway such plans shall be sent to the county or district supervisor in order that that which is a general plan may be modified into a specific plan; so that the

general office, by availing itself of the recommendation of the county or district superintendent, may make such modifications in its final detailed plan as to conform to the special nature of the soil, the area of drainage, and the other peculiar needs of the locality. The final judgment, however, rests in the State commission. So, too, power is now given to the county to have its county engineer inspect the work during the course of construction, while the State commission still retains full authority over the contractor, as it did under the old Higbie-Armstrong Law; but, inasmuch as the county and towns are paying well-nigh one-half of the expense of the county road, they are given, under the new law, that which they did not possess under the old law — an official standing in making protests as to improper or negligent construction.

CENTRALIZED SUPERVISION — HOME RULE IN EXPENDITURE

The underlying principle has been a centralization of authority for the purpose of uniformity of plans; the diffusion of knowledge among the town supervisors; and a proper supervision to secure the wise expenditure of the taxpayers' money. Yet, while the supervision is centralized, the legislature has been careful to preserve absolute home rule in the expenditure of that portion of the money which comes from the local treasury and the town taxpayers; for instance, section 20 gives power to the highway commission to examine and if necessary condemn a dangerous highway bridge; and, while by another section the commission may pass upon the character of the plans, yet by section 95 the expenditure of the money is preserved in the hands of the local town superintendent subject to the supervision of the supervisor and the town board; indeed, if the expenditure for the bridge requires a large sum of money it must be submitted to the local town meeting before the money can be raised. And while recognizing the right of home rule in expenditures an important addition has been made by section 111. The law preserves the present plan that the initiative shall come either by action of the town board or through the recommendation of

the town board submitting a proposition to the taxpayers at the annual meeting. But experience has proven that sometimes the town board is not responsive to the reasonable progressive ideas of the community. Consequently, a section has been inserted which gives twenty-five voting taxpayers the right to ask for the submission of the question of whether the amount recommended by the town board shall be increased by some specific sum set forth in a petition. Thus, that amount of the money expended in any one year is finally in the hands of a majority of the taxpayers.

The only criticism of the code which has been frequently expressed is a regret that there is not a specific wide-tire ordinance contained in the statute. These critics, however, failed to notice that under section 29 the highway commission is given full power to make rules and regulations both as to the width of the tires of the heavy draft wagons and is likewise given power equally to make a proper rule with reference to that other source of injury, to wit, armored tires. The theory of the committee being that the relative mileage of improved highways did not justify a hard and fast rule with reference to wide tires but that the time had come when, with reference to the actual improved highway,

there should be a proper regulation of the use of the improved highway both by the rapid moving automobiles and the heavy draft wagon.

CONCLUSION

It would be remarkable if the joint committee had been able to submit a perfect statute. They do not flatter themselves that they have been equal to that task. However, at the time when the statute goes into effect the legislature will be in session, and it will have the benefit of the recommendations of the new commission. It is sincerely hoped that when the statute has been further strengthened by any needed modifications at the coming session of the legislature that the citizens of New York will be well assured that they have a piece of constructive legislation covering the entire subject of highways which will be at least the equal of any highway statute in the United States, and that under it the fifty millions of dollars granted by the State, and the thirty-five additional millions contributed by the towns and counties, will be honestly, economically, and wisely expended, and that by education and due supervision a great advance will be made in the repair and maintenance of the local roads by town officials. (Applause.)

CHAIRMAN BACHELDER:—In 1904, I attended a good roads convention in the city of St. Louis, and among the speakers upon that occasion was one whose address made a great impression upon me, as it did upon others who were present. We are exceedingly fortunate in having him present to speak to us to-day. He is from another country, but we exact no duty on such product as this. I take great pleasure in introducing the Hon. A. W. Campbell, Deputy Minister of Public Works of Ontario, who is considered the authority upon good roads throughout the length and breadth of Canada. His subject will be "Era of New Road Making in Ontario."

ERA OF NEW ROAD MAKING IN ONTARIO

By A. W. CAMPBELL, Deputy Minister of Public Works of the Province of Ontario

MR. CHAIRMAN AND GENTLEMEN:—

It has been my pleasant privilege within the last few years to have attended a number of good roads conventions in different parts of the United States, and I can assure you that I have benefited materially by the advice, instruction, and information which I received on these occasions. I wish here

to say that I am deeply grateful to your President for extending to me the very kind invitation which he did to be present and meet with you on this occasion.

The question of road making — road improvement — better roads — is as important to the northern part of the continent of America as it is to the United States. We

in Canada feel that we should endeavor as far as we possibly can to improve as rapidly as we possibly can, consistent always with our means, the condition of the ordinary roads of the country.

It has been with us, as it has been with you in a number of your States, a lamentable fact that in the past sufficient attention has not been given to the importance of this question of road improvement. It is a lamentable fact with us that we have always looked upon the question of road making as being of an exceedingly commonplace type; that any man was good enough to be a road commissioner or a road supervisor or a path-master, and that any kind of plan and treatment of the ordinary rural road was good enough for us. Indeed, notwithstanding the fact that we all wished to have the roads placed in as good condition as possible, it never did appear that this work was of great enough importance to attract the minds of the more progressive of our citizens and to attract the attention of the people of our legislative assemblies.

But, sirs, we are beginning now to waken up to the fact that the improvement of the common roads of the country is one of the greatest public works with which we have to deal. It is the one great public work which affects every man, woman, and child of the community and in the country, and, as such, involves annually millions of days of our labor and millions of dollars of our taxation. And until we do recognize generally throughout the States of the Union and the provinces of the Dominion, as the great Empire State has admitted, that it is a great public work that comes next to our railway and our canals, and appropriate millions of dollars of money in a fixed sum for the purpose of undertaking this work in a substantial, business-like and finished manner, then, sirs, will this reckless and ruinous and extravagant method of making, working out, and keeping up our roads come to an end.

In most of the provinces of the Dominion we are divided up into counties and townships. Our roads are maintained by what we call a statute labor tax. We appoint so many road overseers each year, each man having charge of so many men in each community, and warn them to turn out and

perform so many days of labor. This notice is given. These men turn out. The overseer may be a doctor, a lawyer, a farmer, or most anything, so long as he will see that the notices are sent out and that the people are given a little something to do when they do turn out. Now, sirs, the way that this tax is worked out we have come to discover is simply a little better than a sort of national holiday or a sort of public picnic; and of all the farces that ever was perpetrated in connection with the doing of any work or the paying of any tax, it, when photographed and thoroughly understood, becomes the most insane and the most unreasonable. Millions of days of labor of our people collected annually and wasted upon these roads — this on account of the shiftless manner in which the work is being done, the unscientific and unskillful manner in which it is being done — has demonstrated that the roads are improving so slowly that an additional tax has to be created. Hence, we make appropriations from our treasury and spend them in small sums of fifty dollars here and a hundred dollars there, given in charge of these road supervisors. I have made careful calculations from the statistics of the province of Ontario, which is only equal in area to some of your smaller States, yet, sir, we have expended in this way in the last ten years nearly eleven millions of dollars of statute labor, as we call it, and over fifteen millions of dollars of cash; and all that has been spent through these various channels and practically frittered away. The statute labor law, or the working out of the tax, as we have realized, is the most shiftless, the most extravagant, the most incompetent system that any municipality or any people could possibly employ for the making and keeping up of such important public works as the rural roads.

We have drifted away from this, following the movement that began a few years ago in some of your Eastern States where such splendid efforts have been made to improve the roads, and we have passed a new law now in the province of Ontario that permits a county to frame a system of leading roads, to be approved of by the county council, involving all the leading thoroughfares of that county; this then is submitted to the department over which I preside under the

provincial government; these plans then are approved if it is shown that they include only the principal roads; plans and specifications are prepared by our expert engineer and are supplied to the county council; it, in turn, appoints a competent commissioner — an engineer, preferably — who takes charge of these plans and see that they are properly carried out. Wherever such plans have been approved and carried out by the county council, the Provincial Government contributes one-third of the cost. This act was passed about four years ago, and to-day in the province thirty-two hundred miles of leading roads have been brought under the operation of this system. We have expended nearly five millions of dollars since that time upon these roads, and the counties now are going ahead, actively framing their scheme bringing them in, until the department finds that they are pretty well loaded up with supervising the construction of roads which are being built along these lines.

So much for the particular, now for the general.

All food stuffs of the world pass over the common roads. That is a summary which suggests the magnitude of the road problem. It is a fact that will bear earnest reflection. Both producer and consumer are concerned, and it is of world-wide consequence.

We are readily impressed with the larger and newer enterprises and are inclined to regard the railways as the chief factor in transportation. It is not the massive root branches of the tree which abstract nourishment from the soil, but the diminutive thread-like off shoots from them. It is not the steam railway which is the active agent of a nation's growth; but, like the root branches of the tree, the railway is secondary, subservient to the lesser avenues, to the net-work of which is deputed the task of first gathering the means of subsistence. In proportion to the excellence of the network of common roads will the country be occupied and productive. As the roads are good, the country occupied and, therefore, productive, so will the railways have employment. The activity of the railways is a certain index to the magnitude of the flow of commerce, and commerce is the life stream of national prosperity.

Good roads have not secondary place in the transportation problem of the country. The traffic of railways is the summing up of what has passed over the common roads. Railway traffic increases because of the increase of traffic over the common highways. The cost of railway transportation has been lessened to a degree from which little more in point of economy can be expected. There is much more to be hoped for in this regard by lessening the cost of transportation over the country roads.

While the cost of wagon transportation has for many years been almost at a standstill railways have been decreasing costs in many ways — not by spending less money, but by spending more. It has cost money to build larger and more powerful engines, to strengthen roadbeds and bridges, to put down grades, relocate lines, and lay double-tracks in the busier sections. But for this initial cost economy and efficiency in operation has resulted.

In relation to the common roads there has been little consideration given to economical and efficient operation. The first cost has, in general, been the great consideration — the obstacle to a progressive improvement in keeping with modern advance in other ways. The economic aspect of the question is so commonplace, the public has become so accustomed to the mud embargo, that they are blind to its very existence.

The impassable condition of country roads at certain seasons of the year tends to disorganize commerce and to throw the railway service into confusion. The demand for farm produce is constant throughout the year. The marketing is dependent not so much upon the demand as upon the condition of the roads. There is always a rush to market in the fall — before the roads get bad. The financial stringency in the fall is largely increased by the haste to move the crops — before the roads get bad. At other periods of the year railway traffic fluctuates as much as fifty per cent. as the direct result of the condition of the roads. Demands of this kind upon commerce and upon railway accommodation means a waste of energy that is profitable to no one. It must be paid for in cash by the consumer and producer.

In France we find teamsters competing with railways in drawing goods two and

three hundred miles over country roads. In Belgium there are instances, as between Liege and Brussels, or Antwerp and Brussels, in which teamsters commonly haul their loads sixty and seventy miles in competition with the railways. Similar examples could also be found in Germany and England.

That traffic over the common roads can compete with railway rates is regarded by many as an anomaly, a condemnation of freight rates, and a return to the primitive conditions of our grandfathers. Nevertheless for limited hauls, as great as three hundred miles in France the common roads provide a means of competing with the railways which we cannot afford to disregard. With good roads, farmers would equip themselves with better stock, journeys could be made more quickly, and double the present loads could be carried. There are no better means of regulating freight rates than to render ourselves largely independent of railways, by improving the common roads, a matter which European experience tells us is not beyond our power to accomplish.

The vehicle and the roads are but parts of the one machine. The roads of to-day are not equal to their counterpart, the horse-drawn vehicle now in use. Signs are not lacking that in the near future motor vehicles adapted to the carrying of farm produce rapidly and long distances will be available. With roads equal to the weight and speed of such a means of transportation, the possibilities as regards farming are tremendous. But a necessary condition to the efficiency of such a vehicle is better roads.

Rate payers, generally, are possessed of the idea that their roads are now built and maintained almost solely by statute labor and that if this work is not performed in the most faithful manner no serious crime is committed. They fail to realize, however, that owing to the very imperfect manner of doing the work, municipal councils are obliged to impose a direct tax. The amount of this tax, the indifference displayed in expending it, and the inferior results produced comprise one serious phase of the question.

Road expenditure now forms the greatest outlay of the municipalities on any one public service, and is one which will constantly increase. It is estimated that the

canal system of Canada, chiefly in Ontario, has cost since its inception about \$90,000,000. The cost of the railway system within the province has been about \$200,000,000. The expenditure on country roads in money and labor has amounted to more than \$2,000,000 annually.

This large sum is spent on roads in comparatively small amounts throughout the province, the ratepayers see only these small sums, and in consequence do not realize the enormous total. The expenditure is made, too, with little or no attempt at careful supervision, with the result that a large proportion is actually wasted and much of the remainder turned to poor account. Much of the expenditure is undoubtedly devoted to a very good purpose, but a careful examination of the methods pursued will disclose that owing to faulty administration, careless and inexperienced supervision, and the improper influences which are brought to bear upon those in charge, our system of road-making is incompetent, utterly unjust and extravagant, and is almost solely responsible for their poor condition.

That this vast expenditure should be made upon such an important public work, in so slipshod a manner, without rule or design, seems inexplicable. That, as a general rule, work is done without plan or specification, without system, wherever any other public work is done systematically it is watched with the closest interest by the ratepayers, and the expenditure criticised to the most trifling item. Better roads, and even good roads, do not necessarily mean an increased outlay, but a better administration of the present expenditure.

It has been said that there is no direct cash value to the farmer in a saving of time in driving over the roads; that it does not matter whether he can take one load or two to market in a day; that he has plenty of time to spend in driving over the roads, but has little money to spend in improving them. The day when that argument was effective has gone by. A farmer to-day, who realizes his opportunities, has no more time to waste than has any other business man. It is not an argument that can appeal to the progressive farmer. The time that users of the road waste in driving through mud, if efficiently

expended in road construction would do all the work necessary, and we would have the benefit of good roads in addition.

Cities and towns, in their eagerness for great railways and terminals, have forgotten their interest in country roads. The city is the product of the country; the country is not the product of the city. The first roads on the continent were country roads, not city streets. As country roads were first in origin, so they are first in importance. There is too great a tendency among townspeople to overlook the wider application of the question of roads in general. With city paving, there is certainly a greater demand for engineering skill, and the engineering difficulties appear to be farther from solution than is the case with country roads. All the same time, the simplicity of country road construction is not always so real as it appears, and the difficulties are greatly increased by the deficiency of funds with which to overcome them. The same obstacle, it is true, is met with in city paving, and the question becomes in each case, one of obtaining the best results with a minimum or within a limited cost. In view of the strict economy demanded, the construction of country roads, in selection of materials, location, drainage, grading, bridge and culvert building, and the various details, becomes a matter in which the greatest skill is not wasted.

The people in the cities are very apt to urge that, because their pavement cost so much per foot frontage more, because the farmer receives the reciprocal use of the city street in return for the city man's use of the country road, they have, therefore, discharged their obligation with regard to roads. Contrasting an eighty-acre farm, however, with a fifty-foot town lot, and a farm road at \$1,000 with a city road at \$5,280, we find the cost to the individual farmer is \$125, and to the city property owner \$25.

Many of the streets, it may be said, cost much more than the amount named. The same is true of the country roads, almost the minimum has been named in each case, and if we double the cost in the one instance we must do so in the other, so that the proportions remain about constant. Then, too, a fifty-foot city lot is double the frontage occupied by the majority of city houses.

An eighty-acre farm is not uncommon in the country and in levying it with one-eighth of a mile, there has not been included its proportion of flankage existing in every block.

Country road building is a matter of magnitude and expense, as compared with the number and wealth of those upon whom it now commonly rests. Wherever it is left solely to the farmer it will be years before the condition of the roads will be adequate to the complete development of the resources of any country. It is a great public work which the entire citizenship must bear a part of the cost.

The sum of the matter is that, whether or not the towns and cities discharge their strict duty in the construction of streets within their limits, their prosperity is dependent upon the prosperity of the country districts, and it is but a matter of self-interest, of profitable investment, to assist in road building.

There is, first of all, the broader aspect of the question which regards the welfare of the nation as a whole. In this aspect of the question we are led to regard the relations which exist between the great metropolitan centers which have as territory upon which they depend for support, the nation as a whole which, whether for agricultural, mineral, or forest wealth, are ultimately dependent upon the rural highways for the materials of manufacture and consumption.

There are again the towns and cities of lesser magnitude which draw their support largely from the agriculture of the immediate vicinity. From these latter there comes a more urgent demand for good roads, a demand which all urban communities have made of late years, for it is these lesser cities which would be more directly benefited by the improvement of roads in the immediate district. The benefits being more direct, the value of good roads becomes more apparent.

The larger cities less directly benefited, but benefited to no less, indeed to a much greater, degree, appreciate less perfectly their value because, being less direct, the benefit is less apparent. They have usually many manufacturing industries and, therefore, seem more self-supporting than are the towns more directly dependent upon the agriculture of the district. The more ap-

parent independence is, however, deceptive. If the town is a manufacturing center, it must have country roads over which to draw the material for manufacture; to a much greater degree, however, must it have a wealthy territory surrounding it to purchase its articles of manufacture. It is to the agricultural country that good roads are most beneficial, and no agricultural country can become wealthy and to the highest degree, prosperous without good roads. From greatest to smallest, towns and cities are dependent upon good rural roads.

If the farmer must come over the roads to the centers of population and the railway station to dispose of his farm produce, it is equally necessary to the townsman that he should use the roads to draw the merchant's goods back to the farm. It merely happens, as a matter of convenience for obvious reasons, that the farmer draws his produce to the town and his purchases back to the farm, instead of the merchant hauling his merchandise to the farmer and the produce of the farm back to the town. The country roads are of quite as much benefit to the townsman as to the farmer.

Without the means of access, a country is valueless for production purposes. A farm of highest fertility within fifty miles of a city, if there were not roads by which it might be reached, would be as valueless as if situated in the heart of Africa. Distance is not measured by miles, but by rapidity and ease of travel and transportation. It naturally follows that with the opening of the first wagon track leading to it the value of a farm commences and as the road improves the value of the farm advances, other conditions remaining constant. It is true that the more the country districts become filled with population the more rapidly the improvement of roads will advance, but it is equally true that the more rapidly the roads are improved the more rapidly will population advance. As population increases the wealth of our cities will increase, and it, therefore, points forcibly to the conclusion that one of the potent means of improving and lengthening town and city streets is to provide at the distant end of the chain of transportation, good country roads. (Applause.)

CHAIRMAN BACHELDER: — The State of Ohio is a great State, whatever measure we put upon it — great in area, great in statesmanship, great in agriculture, and great in its farmer organizations. We have present to-day the executive officer of the Ohio State Grange, who is also here representing the National Grange, and who is also here by virtue of appointment from the governor. I refer to Mr. F. A. Derthick, who will be the next speaker.

THE CALL FOR GOOD ROADS AND THE PROPRIETY AND NEED OF FEDERAL AID

By F. A. DERTHICK, Master of the Ohio State Grange

MR. CHAIRMAN, DELEGATES, AND MEMBERS
OF THE AMERICAN AUTOMOBILE ASSOCIATION: —

It's a blessed thing to live in an age like this and dwell in a land like ours, marked as it is, and within our memory has been, by the most marvelous development, discoveries, and inventions of any age, or land.

We must admit, however, that the improvement of our public highways has not kept pace with our progress along most other lines. This failure has at last been realized, and to-day thousands of earnest "good-road workers" are distributed through

many States of the Union. May we not hope that from this and similar conventions a general movement for good roads may be inaugurated? The varied interests represented here indicates the breaking down of barriers, the harmonizing of differences, and a keener appreciation of the fact that the question of improved roads is a vital one to citizens in every walk in life. The call for better roads has steadily increased in volume until to-day it is voiced by manufacture, commerce, agriculture, and mining, and when this great quartette of sisters join hands we may predict that in the near future the nation itself will embark in a

well-devised plan of permanent road improvement along systematic lines.

Transportation companies are interested because, given good roads, there would be an end of the semi-annual congestion at shipping points which now requires an enormous expense for cars at certain seasons that lie idle the balance of the year. The producer is interested for the reason that in anticipation of the certain return each fall and spring of impassable roads he must hurry forward his crops to sell in a glutted market at prices not always warranted by the supply, and which would not be accepted if he were able to deliver his produce in response to the demand of the consumer, who, in turn, is often the victim of extortionate prices by reason of bad roads in the country. With good roads the stream of supplies would be more constant thereby relieving the congestion noted above, the producer and consumer would be less dependent upon changing conditions, the great law of supply and demand would find full expression to the mutual financial advantage of both producer and consumer in the net saving of the many millions of dollars now finding their way into the hands of those who do not sow nor reap, neither do they spin.

This fact alone justifies a tax upon the output of every town and State in the Union, for the permanent improvement of roads; there can be no expenditure of money more nearly affecting every citizen of the republic, than this which involves the food supply of all the people.

Again, the farmers are calling loudly for better roads because of the new departure in the means of education. The little red school house has done valiant work in all the past and from its portals there have come up each year an army of young men and women who have reinforced every department of human activity; but the district school must pass, for the tendency is towards centralization, and in Ohio, as well as in other States, the pupils of an entire township are being transported to centralized schools, where they have all the privileges of a graded school with high school in connection, all under the supervision of a college-bred man or woman, and at the end, of course, are ready for the freshman

year in college; yet all the while have enjoyed the peace and safety of their father's house. To this advance in the cause of education for the farm boy and girl the periodical season of mud roads offers the most serious hindrance. The sickle, the cradle, the scythe, the flail, the ox-cart, and "the old oaken bucket," all have passed, and the little red school house must give place to better things; and if now we can speed the parting of these erstwhile honored factors in civilization by adding to the procession their brother of ill repute, bad roads, I feel sure that we will run to the nearest Methodist church and borrow its loudest Amen.

Again the call for good roads in the rural sections is growing more insistent because of the recent blessing of rural mail delivery. It is impossible to disassociate this great boon to the farmer from the question of good roads, upon whose presence or absence the full success and ultimate general extension depends.

Scarcely less important than the above considerations are the enforced limitations upon social life upon the farm due to the impassable roads at those seasons of the year when, from the nature of his calling, the farmer has more leisure for larger social life and consequent mental renewing. It is estimated that in the United States we have approximately two millions of miles of dirt roads. It should be remembered that upon nearly each mile of this vast stretch there lives a farmer, who, with his family, are mud-bound prisoners during a considerable portion of the year. Close observers of economic conditions insist that this fact alone has driven thousands of our brightest boys and girls from the farm. The farmer should not oppose this advance step in the march of progress, for no citizen receives greater benefit than he will. Good roads, centralized schools, rural delivery, and a larger social life go hand in hand, and all contribute in making life upon the farm larger and fuller, and the farm home a more beautiful place to be. Add to this the fact proven by experience that road improvement nearly always results in an increase of land values, from twenty-five per cent. to 100 per cent., and it would be strange indeed were not the farmers almost

en masse found in line for a proposition meaning so much and offering so much in added comfort, pleasure, and profit to rural life.

Vast amounts of labor and money have been expended upon our dirt roads in the past, but, save in few instances, we have as a result mud holes, ruts, wash-outs, and failures. Had this expenditure been intelligently directed we should have to-day many thousands of miles of permanent roads. Protests loud and deep are now being made against this misdirected, haphazard road work, and this, in connection with the growing feeling that the State should assist in the construction of roads, promises to inaugurate systematic work for the future.

Speaking for Ohio, our legislature at the session just closed enacted a road law providing that in the construction of roads under the law the State shall pay fifty per cent., the county twenty-five per cent., the township ten per cent., and the abutting property fifteen per cent. A moderate appropriation was made and the great work is begun in the Buckeye State. This will prove like "casting our bread upon the waters," for this expenditure of State funds will return after many days, four-fold. Population will be increased, business invited, lectures multiplied, religious work and services promoted, and the wealth and prosperity of the State enhanced.

The National Grange, supported by every State grange in the land, is to-day asking that federal aid be extended in constructing our country roads. The need and propriety of such aid is conceded on all sides, and the ranks of those who have opposed it are rapidly thinning out. Every citizen in this great republic is dependent upon the country road for his very life. Food and clothing are the essentials, all else is incidental. The farmer's road is the nation's life, and as population increases it becomes a still larger factor in our economic and industrial life. It is highly important that the transportation of food and clothing be at the lowest possible cost with the greatest possible speed. The total cost of food and all supplies is materially affected by the cost of rural transportation. The demand for supplies from the country is said to be

increasing in a geometrical progression, while the ability of the lands now under cultivation to produce goes by the slower process of arithmetical progression. We gather from this that in the near future many millions of acres of our domain, now remote from shipping points, must be laid under contribution to the food supply of the country. These remote and now inaccessible acres must be brought nearer to the points of shipment, which can only be done by improved roads.

The farmer is impressed with the necessity for permanent roads but is staggered at the cost. To improve the two millions of miles of dirt roads now confronting him at the moderate estimate of four thousand dollars per mile will cost eight billions of dollars—a sum before which the human mind falters and fails in an effort to comprehend its vastness. The undertaking is too large for individuals, or communities. In this extremity he turns to his government, as the farmer of every land and clime has done before him. In making this demand he does not come empty-handed or as a suppliant. He knows that he has a good bank account with his government. It is for him to feed and clothe the world, and nobly is he responding.

Last year the farmers of the United States not only produced the food and other supplies for the more than eighty millions of people here, but they sent across the sea and sold in foreign countries a billion and five hundred millions of dollars' worth of farm products. This preserved the balance of trade with all countries and five hundred millions for Uncle Sam to "lay up" for a rainy day. But for this a billion dollars must have been sent abroad to pay for our imports. It was enough to pay the entire appropriations of Congress and still add five hundred millions to the national wealth. Thoughtful statisticians now tell us that the products of our farms this year will exceed all previous years and reach the grand total of eight billions of dollars. The agriculture of the United States is the "milch cow" of the United States, and from her our teeming millions are drawing their daily sustenance. From our exports, Uncle Sam has for many years been paying his debts and should have deposited to our credit some

billions of dollars beside. We are asking for but a small portion of our own. Who shall say it is not ours? For what has our money been expended? Hundreds of millions for public buildings into which the farmer seldom enters, and in which he has but little interest, yet consenting to the expenditure through patriotism and love of country. Again, from 1902 till 1908 inclusive, one hundred and fifty millions of our money has been paid to somebody for the avowed purpose of improvement of waterways. Yet before a bushel or a pound can be loaded upon any boat or ship it must be hauled in a farmer's wagon over a road that he is forced to build at his own expense. A road, too, that is wide open to every citizen not only of this country but to the citizens of all countries, even to the islands of the sea, without money and without price.

To this seeming favoritism and injustice the farmer has not seriously objected thus far, but he remembers that, although waterways as competitors in transportation are attractive as an argument before congressional committees, he is but indirectly benefited, as only a small per cent. of his produce finds its way to market in boats. It is not too much to say that a much larger per cent. of our produce is hauled from the field direct to the consumer by the farmer himself, and over roads that are at times well-nigh impassable, thereby greatly reducing his profits though adding to the price to the consumer. By far the larger part of our produce is consumed at home and finds its way to market by railroads, but whether by boat or rail, it all first goes over the farmer's road in a farmer's wagon.

From this viewpoint it must appear to any fair mind that any argument offered for government aid in the dredging of rivers, building locks, dams, and breakwaters, is pitifully weak compared with argument for federal aid in building country roads, for the reason that a very small per cent. of our people are at all interested in canals, rivers, or even seas, while one hundred per cent. of our people depend on the country road for their very life. The greater includes the less. The farmer is the sole and only class that produces everything from the soil. While this is true, he realizes the interdependence so proper and

necessary to our advancing civilization, and has not, and may not, object to a reasonable portion of the fruits of his fields being expended in the erection of buildings for cities, or for the improvement of waterways, even though it be a semi-private enterprise. But the National Grange from now straight on will, as the only considerable body of organized farmers of the United States, enter an emphatic protest to the long-time policy of the government in appropriating the entire amount of our surplus to promote every interest save ours.

More especially is this statement true and will ever be true relating to the modern proposition to give millions annually for the construction of ships that are to belong exclusively to private parties when constructed, on the plea that they will be in readiness for a war that will never come. Millions for a merchant marine, and other millions for battle ships, when everybody knows that the contest of the future will be on the industrial field, and the weapons brains not bullets. Millions upon millions in preparation for war, but not a penny to make passable the country road over which country children must be transported to secure that education which Burke says "Is a nation's chief defense." The school master with his primer is to be the general of the future, for the tendency of the world is away from war, which has been characterized as "All Hell." The tendency of the race is toward peace, and our eyes have been gladdened within a few months by the scene at The Hague,

"Where in concord furled
Were the battle flags of a gathered world."

Acting under as good legal advice as the country affords, the National Grange Executive and Legislative Committee, in response to a specific resolution by the body, secured the introduction in the 60th Congress of House Bill No. 15837 by Mr. Currier. This is not the time, or it is not my purpose at least, to discuss the details of the Grange bill, but it has been carefully studied and framed to avoid objections raised against previous bills. It creates a Highway Department, and, as an entering wedge, appropriates fifty million dollars to be equitably distributed among the respective States,

expended under the supervision of experts, with provision for coöperation with State and local authorities in construction of improved roads in a scientific manner, with a view of getting a dollar's worth of service from each dollar expended. The bill may not prove perfect, but it is a beginning, and the National Grange is behind it, and we invite all good roads associations and good roads workers to join hands with the million members of our order in an effort to secure its enactment. (Applause.)

I am here as a delegate appointed by the Governor of my State, as well as an appointee of the Master of the National Grange, and I have a lively interest in the object of this union meeting. If it be true, as charged, that the swift-flying auto destroys an improved road, it is a problem to be solved — for the auto has come to stay. The owners of autos for the most part are liberal contributors to the revenues of the government and will be anxious to coöperate in the maintenance of the roads. Personally, I should regret exceedingly the disappearance of the motor from the rural sections. It flashes by my home filled with ladies and gentlemen from the city and adds brightness and color to a life that is often sombre. The early and wide-spread prejudice of the country people is not general now, and when the small per cent. of inconsiderate drivers who now bring reproach upon the entire fraternity are driven out of the field, or become civilized, which means for them "being born again," the auto and its occupants will be welcome visitors. I look forward to the time when the auto will be of practical service in the country, not only in the transportation of crops from farms remote from shipping points, but in the transportation of our children to the centralized schools of the future, thus obviating the enforced irksome ride of some hours each day over dirt roads that at times are bottomless.

The nation has given aid to railways

which has resulted in developing rich sections of our country and placed the United States in the forefront as a commercial nation. This policy was criticised at the time, but, whether right or wrong, the policy now seems wise from a business point of view, as it has added billions of dollars to our national wealth. As a tax asset government aid to railroads proved a good investment, for to say nothing of the vast increase in value of real estate and consequent swelling of the products of the various States traversed by these assisted railroads, the roads themselves have been no mean contributors in meeting public expenses. From 1901 to 1905 inclusive, the railroads of the country paid in taxes the enormous sum of two hundred and eighty million dollars. We love them for the taxes they pay. May their shadows never grow less!

From 1850 to 1890, the government gave to railroads one hundred and eight million acres of land. Whether this policy was wise or otherwise, what excuse can be offered for giving to private corporations what really constitutes an empire in return for building roads for the use of which every citizen must pay, yet withhold reasonable assistance in building roads more necessary and over which every law-abiding citizen can pass at will.

Rome builded her Appian Way, England, France, and Germany embarked in national road building long years since, and to-day point the finger of scorn at the New World, assuming to be a world power yet content to plod along in the mud. Let every man that loves his country and the flag he follows join hands with every agency working for better roads for all the people without money and without price; let us give our representatives no rest until they allow such an expenditure of our own money as may be necessary to do the one thing that shall make this nation in fact, as well as in name, the greatest in all the world. (Long applause.)

CHAIRMAN BACHELDER:— We have all heard of the Long Island Motor Parkway, and we would like to know more about it. We are favored to-day with the presence of its popular general manager, Mr. A. R. Pardington, who will speak to us upon "Special Road Construction."

SPECIAL ROAD CONSTRUCTION

By A. R. PARDINGTON, General Manager of the Long Island Motor Parkway

MR. CHAIRMAN, FELLOW DELEGATES OF THIS CONVENTION, MEMBERS OF THE AMERICAN ROAD MAKERS' ASSOCIATION, LADIES AND GENTLEMEN:

It was my pleasure to address many of you at a convention held last year in Carnegie Hall at Pittsburgh. At that time, I spoke with regard to the prospects of the Long Island Motor Parkway as a special highway for the use of pleasure automobiles only. At that time the Parkway was in purely formative condition. Its plans were in embryo, its future largely in hope, but its interests were reposed in a body of men with determination and capacity for doing things. Since that time wonders have been accomplished, and to-day, with mingled feelings of pleasure and embarrassment, I am accorded the privilege of relating to you something of what has been done.

Many of the plans which we early formulated have been executed to the letter. Our right of way is as was planned, one hundred feet wide. Of the sixty miles, the length which we contemplate, we already control something over fifty miles. The gaps intervening are not consequential and will be closed within the very near future. As we first planned, every highway and railroad crossed is to be taken either above or below grade. At the present time, we are constructing about twenty-six of these crossings. We have under contract, and are now constructing, about eleven miles of highway of a specialized type. Our bridges are constructed with reinforced concrete abutments and steel spans of as nearly standard type and construction as possible. Variations, of course, are demanded as the topography of the country indicates.

After numerous tests of various types of road surface, we decided upon and contracted with the Hassam Paving Company, of Worcester, Mass., for a stretch about eleven miles long. So confident was the Hassam Paving Company of their ability to meet our demands that they obligated themselves to complete this eleven miles within a specified period of time, and furthermore bonded themselves against maintenance on our part for a term of five years

from the date of completion and turning over of the highway to the Parkway Company for use.

For the benefit of those who may not be familiar with this construction, and while avoiding a technical description, I would simply state that this road surface is a grouted concrete, using reinforcement of wire of a given mesh. The sub-surface, drainage, grading, cuts, and fills are all prepared by the Parkway Company and turned over to the Hassam Paving Company, ready for the application of their process. Stone of a given dimension, approximating about two inches, is laid to the depth of two and one-half inches, wedged down and rolled. On top of this is laid the reinforcing of steel wire; a second layer of stone of smaller size is laid on top of the wire, wedged down and rolled to a perfectly smooth finish. Following this work, the concrete is put on in liquid form (rich in cement) and rolled in; a sufficient number of applications of concrete in this form is made until the entire mass is securely bound and all interstices are filled by the grouting. Rolling is continued during the entire time of grouting. In order that the finish might not be painful or tiresome to the eye a pigment of lamp black is used, varying as the conditions of scenery demand, so that in sections through the woods the road surface is lighter than on the open plains or in the open country, making the roadbed readily distinguishable at all times of the day or night.

The work of construction on this roadbed was authorized by our Construction Committee on the eleventh day of May. On the fourteenth day of May, the Parkway Company began the work of clearing, grading, and sub-surfacing. During the last week in June, the Hassam Paving Company commenced to receive deliveries of broken stone from the Clinton Point Stone quarries on the Hudson River, and at once began the work of construction, carrying the same to a point near each one of the bridges which are also under construction by the Parkway Company. Immediately upon the completion of the bridges, and the puddling and rolling of the fills the road surface will be

continued on to and over each one of these bridges or crossings.

Eleven miles of this highway will be completed in time for the fourth annual race for the William K. Vanderbilt, Jr., Cup, on the tenth of October of this year, this date having been set by the commission in charge of the race for the elimination and selection of the American cars to compete against the foreign cars which have been or are being entered.

Provision has already been made for extending this highway at least sixteen miles during the spring and summer of 1909. In fact, the work of clearing, grading, filling, etc., will be prosecuted during all the fall and winter of 1908, and the spring of 1909, so that by May of next year the road surface, of whatever type may be determined, can be placed.

In addition to the Hassam Paving, we are studying with great care the use of petroleum compounds in connection with local material; Peekskill gravel; Georgia gravel; loam, clay, etc. We are especially interested in and are giving all possible consideration to the type of road construction which prevails in California, where oil is injected, under pressure, into the earth, which has previously been plowed and later tamped by a special form of tamping roller which packs the mass from the bottom up. This type of construction has many attractions for us, and as soon as we are assured of the fact that it will withstand the rigors of the northern climate, I am more than justified in saying that its use will be undertaken.

In thanking you for your courtesy in extending to me the invitation to appear before you, and in further thanking you for your attention to the uninteresting remarks I have made, I desire to express publicly our thanks to the State, county, and town officials, who have in charge the highways on Long Island. These officials have coöperated with us, honestly, earnestly and intelligently. They believe that we are solving a problem which sooner or later must interest the highway commissioner, the highway superintendent, supervisors of counties, and all officials charged with the construction, maintenance, and care of public highways. No class of public more keenly appreciates

the fact that the automobile, under its present high development, has not the most beneficial effect upon the highways. We believe and would urge upon you that coöperation with a venture such as ours, which may be made to relieve the highway of the use and abuse to which it is now subjected by the automobile, should be encouraged, and should have its efforts rendered as easy as possible in their purpose to provide a specialized highway for specialized traffic.

This is the age of specialization. The general practitioner in medicine, whom we all know, revere, and remember with affection, has been superseded by the man of medicine who specializes in his work and treatment and operation. The electrical engineer to-day confines his effort to one of many branches. Steam engineering has been divided and again subdivided until it is impossible to realize that the line of demarkation between the branches has become as pronounced. Within the past few years a new branch of engineering has demanded consideration. I refer to the gas engine designer and builder. To-day, independent power plants are found all over the civilized world. The efforts of the designers of these engines have been to construct a motor for the use of the farmer, the manufacturer, and others who have occasion to use power. The gasoline motor to-day is apparently nearing perfection. It is fool-proof, ever ready, economical, portable, and can be adapted to so many of the efforts of mankind that it is justly and honestly known as the "jack of all trades." To-day we find the automobile owned by not the man who resides in the city and uses it for pleasure, but in the hands of the farmer, the small shop-keeper, the doctor, the traveling salesman, the clergyman, and the undertaker, the result being that the general public is becoming educated to its use and fast learning to operate, care for, and successfully handle this type of locomotion. The possibilities of the gas engine are unlimited. Within the past two weeks the public prints have carried the announcement that the British Government is to construct a 20,000 ton battleship of the Dreadnought type, to be propelled by gasoline motors. To comprehend the meaning of this, we must pause and consider.

I would not have you for a moment imagine that the construction of the Long Island Motor Parkway has been a work of simplicity and without complication. It is as revolutionary and unusual as was the construction of the first steam railroad, the first steamboat and the first trolley line, or the first telegraph or telephone line. We believe that this parkway, with its sixty miles of length, reaching to the limits of the city of New York, is but the forerunner of other types of specialized highways, which

in time will radiate from all of the centers of population in this country. Again, I would urge upon you to commend it, coöperate with it, and make it possible.

I thank you for your attention, and trust you will at any and at all times feel free to inspect and criticise the work which we are undertaking; believing that we do not possess all of the knowledge bearing on this subject and frankly admitting that we are seekers for knowledge and information. (Applause.)

CHAIRMAN BACHELDER: — The next on the program is "The Highways of Massachusetts" by Mr. Harold Parker, chairman of the Massachusetts State Highway Commission.

THE HIGHWAYS OF MASSACHUSETTS

By **HAROLD PARKER**, Chairman of the Massachusetts Highway Commission

MR. CHAIRMAN AND GENTLEMEN OF THE CONVENTION:

The subject which I have chosen, "The Highways of Massachusetts," is taken not so much because of the actual interest which you may have in the highways of my State, but rather because a talk on the subject of good roads as they are made and maintained in Massachusetts has a direct bearing and may be somewhat illuminative to those of you who come from other parts of the United States and who are interested in highway improvement. In other words, the importance of this subject, as it appears to me, impressed itself on the people of Massachusetts earlier than elsewhere.

Notwithstanding the feeling that prevails in some parts of the country that Massachusetts is a conservative State and somewhat behind the procession of States, it is true that in almost all radical measures for the betterment of the community Massachusetts has always been near the front. I have listened in this Convention to the presentation of arguments in favor of the construction and maintenance of good roads throughout the country, but these lines of thought and suggestions for improvement, or most of them, we went through with in Massachusetts years ago. I find here that same contest for something better which we have experienced, and in our struggle I believe we have reached the view of an end not beyond attaining.

In 1892, the need of a systematic improvement of highways was so urgently felt that the Legislature enacted a law which directed the governor of Massachusetts to appoint three provisional commissioners whose duty it was to spend a year in investigation and to find out what the character of the soils throughout the State of Massachusetts was, to note the topography of the State and the condition of its main thoroughfares, and to devolve a scheme for a law which should create a permanent board of commissioners who should have charge, under certain conditions and limitations, of the highways of the State, both as to their construction and their maintenance.

This commission made a report at the end of the year which suggested a bill, and that bill, with certain changes and modifications, became the present State highway law of Massachusetts. From year to year certain changes, amendments, and additions have been made in this legislation, and at the present time it may be considered that the laws relating to this matter are in a fairly complete form and that the system is, therefore, open to comparison with highway systems elsewhere as an established rather than as an experimental system.

Without going into any details of legislation or how the legislation was accomplished, I propose to inform you as to the method employed by the people of the

Commonwealth to secure what are known as State roads. The initiative in all cases is taken either by the county commissioners of a county, the selectmen of a town, or the mayor and aldermen of a city, who are permitted, under the law, to petition the State highway commission for the laying out and construction of, as a State highway, any piece of highway within their respective jurisdictions. The commission has the right, under the law, to accept as a State highway any or none of the roads petitioned for. If, in its judgment, such action is for the public interest, and the commission accedes to any petition thus presented, it proceeds to survey, plan, lay out, and construct the road. After the road has once been accepted by a decree of the commission it becomes a State highway forever, and must be maintained by the Commonwealth under the commission's direction.

The commission has devised, under the plan just suggested, a system of highways throughout the entire State. These highways are upon the main lines of traffic between centers of population, taking in, in their courses, the intervening towns, and a glance at the map of Massachusetts, which I offer to you, will show that the State of Massachusetts has its lines of State highway fairly well developed by roads already built. It is possible to go from Boston to the famous "Jacob's Ladder" in the Berkshire Hills over an almost continuous line of State highway, with very few breaks in it, and probably within the next two years the gaps between the sections of State highway will be built so that the whole line from New York State to Boston will be unbroken.

The State roads not only include the main east and west thoroughfares, but they also, as you perceive, radiate in all directions from the larger centers of population, thus developing, as they are constructed, a complete network of thoroughfares throughout the entire State, connecting on its borders with the systems of other States.

Under the law, the Commonwealth pays, primarily, the entire construction cost of these roads together with the entire cost of their maintenance, but each county is required to pay twenty-five per cent. of the expenditure for construction, within its borders, back into the treasury of the Com-

monwealth, and each town is required to pay toward the cost of maintenance of these roads within its borders the expenditures for this purpose up to but not exceeding \$50 per mile a year. This payment is not supposed in any sense to pay the expense of maintaining State highways, but it does in some sense balance the entire expenditure in such a way that the burden of taxation is not felt by the community at large.

In addition to the duty of constructing State highways and taking care of them, our commission is required, under the law, to give advice free of charge concerning road matters to towns or cities making such requests for assistance, and the commission often prepares specifications and contracts and takes charge of the construction of town work throughout the entire State. In this way the highway commission has probably had the entire control of work paid for by the towns and cities in amount approximating that spent by the State itself.

It may be said in this connection that, having had in its employ the best road engineers that it could obtain, and having had these engineers in the constant practice of their profession for the last fourteen years, the commission has developed a corps of road engineers which, as we believe, is not excelled by any community in the world. That this is manifest to others is demonstrated by the fact that the State of New York, in which we are now convened, has this year taken from us several of our best men by paying them more money than we can afford to.

It may be observed, from a commercial point of view, that whereas in Massachusetts, within the past twenty-five years or less, it was quite possible to come upon abandoned farms and decaying farm houses on almost any of the highways at any considerable distance from a town, such abandoned farms have now disappeared and this is due, in a large measure, to the rapidly completed system of roads throughout the lesser populated districts, due, I say, by common assent, to the construction of the State roads. The distance from the farm to the market is lessened and the facility of transportation increased a hundred per cent.

It does appear to me that the farmer's best friend is a perfected system of roads. That this is so in our State we can prove by actual demonstration. It seems to me that within the small compass of the State of Massachusetts we are able to show conclusively the benefits of this kind of legislation, and I, therefore, urge upon all the other States the great advantages to be derived from the ample expenditure of public funds, along these lines, upon the public roads.

That the road question is of vast interest to the automobilist is, of course, apparent and axiomatic, and that the automobilists are in favor of good roads goes without saying. Their selfish interests alone preclude the presentation of any argument on the other side. And since it is manifestly for the good of all, it seems to me that the farmer should join forces with the automobilist, and, instead of taking side against him as being the natural enemy of labor and the representative of wealth, they should unite their forces in directing sentiment toward legislation for the common good.

I should like to add one word further in relation to the use of the highways by automobilists. In our State the law has placed the control of automobiles in the hands of the highway commission. In the first place, every individual owner and every individual operator, whether he be a private operator or a professional, must get his certificate of registration for his car and his license to operate from our commission. The power is given to the commission to take away or suspend licenses or both at its

discretion when the reason presented to it seems sufficient. It has the right, under the law, to appoint inspectors or detectives to investigate any case in which improper operation is alleged, and these officers have in large measure the powers of deputy sheriffs and constables and may serve processes issued by the commission. The power to summon witnesses and to swear them is also with the commission, so that any person who is aggrieved because of the careless or negligent operation of motor vehicles in Massachusetts has a right to present his complaint to the commission with the assurance that his petition will be carefully considered by a board familiar with motor vehicles and their operation. The automobilist, on the other hand, has the benefit of a board so constituted to pass upon complaints against him, and he has a right to expect more careful consideration and, shall I say, fairer treatment than he sometimes receives in the police courts.

We have discovered that the danger of losing their licenses or their certificates of registration is a greater menace to the automobilists than any fine or other punishment, and I am rather of the opinion that our automobile drivers are under better control than those of any State which I have visited.

I have given you an outline of our road system and its results in Massachusetts, and I think I have taken up as much time as you care to give to any one address, and for the practical demonstration of the system I have outlined I invite you all to traverse the highways of Massachusetts and see for yourselves. (Applause.)

CHAIRMAN BACHELDER:— We will next call upon Stephen Ryan, State Road Director in New York, who will speak upon the "Improvement of Town Roads."

IMPROVEMENT OF TOWN ROADS

By STEPHEN RYAN, State Road Director of New York

MR. CHAIRMAN:—

I am going to follow the example of the others, and be brief.

If I stood here for the purpose of addressing a body of automobilists, and them only, I think I would try to convince them that their greatest difficulty is that they do not

understand the country people and the difficulties they have to overcome in good road building; and I would also try to convince them that they have got to look to these country people for the solution of this great road problem.

If I stood here to talk to a body of town

officers and grangers, and to them only, I think I would try to convince them that their greatest difficulty is that they do not understand the motives of the automobilists and the good that they have done in creating an interest in this work and in getting the money for road improvements.

But, to talk to a mixed body representing, as this does, all classes, is quite a different task, and it is hard to know what to say. It is entirely fitting and proper, however, that we should all meet here and try to have a better understanding and that each should know what the other is doing in this great work.

The country people should know that the automobilists represent the cities and that the cities pay nearly all of the money that goes to the towns as State aid, there being no direct tax.

What would happen to the money system towns if the cities should combine and refuse to give any more State aid because they were not getting good roads for their pleasure trips?

The highway tax, even now, is the heaviest burden the farmer has to bear.

The city people, on the other hand, should know more about the difficulties the country people have to contend with in good road building, and we should all remember that we cannot get all good things at the time we want them.

Improvements to town roads in the money system towns of New York State have been something marvelous, but the improvements are not apparent except to the people who live in the locality where the improvements have been made, and who remember the wretched condition of the roads before the improvements were made.

To illustrate my point, I might describe an actual condition:

Three years ago a certain town went under the money system. The town was poor. And when I speak of towns being poor, in connection with highway improvements, I take into consideration their assessed valuation, which is their wealth, and the number of miles of highway, which is the work they have to do. This town levied a highway tax of over three dollars on a thousand, which is a dollar above the average in the State, and in addition to that they levied a sub-

stantial tax for bridges, for extraordinary repairs, and for the salaries of their highway commissioners; and yet, owing to the large number of miles of highway in the town, they only had \$20 a mile with which to work their roads; and to-day, even with the assistance of the Cobb Bill, which gives dollar for dollar, State aid, they only have \$27 a mile. The fact that the town was raising a tax a third above the average was proof that its people were willing to do their part. The roads, as I have said, were in wretched condition, and \$20 a mile would do very little. A part of one of the many highways across the town was especially bad, in fact, it was a swamp. Some of the old hemlock logs that were put in there fifty or a hundred years ago to make a corduroy road were there still and were six inches or a foot above the surface of the road, so that when a wagon was not up to the axle in mud it was bumping over these old hemlock logs, or over the old wooden box sluices which were also from six inches to a foot above the surface.

The department, after looking the ground over, gave this advice: "Make one permanent improvement and do the best you can with the balance of the roads. You have plenty of flat field stones in the vicinity of this swamp; take these flat stones, set them up edgewise, pound smaller stones into the crevices and cover them up with gravel; throw out the old wooden box sluices and replace them with cement or stone sluices."

If the tourist of to-day was driving over this road, he would find what he calls a fairly good country road, nothing more, nothing less. He would not know that this particular road now has a telford base and he would not know that the town had burdened itself with a tax a third above the average.

I am using this as an illustration to show that some of the most important improvements in town road work cannot be appreciated without knowing the wretched condition of the road before the improvements were made.

I have in mind another town which is working under the money system this year for the first time, and they are confronted with this condition: Notwithstanding the fact that they have collected a tax of two dollars on a thousand, which is about the

average, but owing to the large number of miles of highways in this town, they have only \$15 a mile with which to work their roads, and this includes State aid.

There is over a thousand old wooden box sluices in this town, or an average of eight to the mile, nearly all of them in poor condition, and all from four to eight inches above the surface of the road.

In that town, \$15 a mile, if it were all put into sluices, would be only two dollars for each sluice; but the roads are in bad condition and must be repaired as well as the sluices.

These are examples of what I call "poor towns."

We have towns like East Chester, in Westchester County, where there is but seven miles of highway in the whole town, and where they have \$1,138 a mile with which to work their roads.

We have towns with \$500 a mile; towns with \$100 a mile; in fact, we have all grades between two extremes.

As a rule, the poor town has the high-tax rate and the rich town the low-tax rate.

We have sections of the State where the gravel is inferior; we have sections where there is no gravel at all; sections where there is nothing but sand and clay; and also sections where there is the best kind of local stone and gravel.

As the best method of handling the varied conditions in this State, we have hit upon this general broad policy:

First. We have established a uniform system of blanks and a uniform system of bookkeeping for everything pertaining to the town road work. This is so arranged that it insures the honest expenditure of both the town and State money.

Second. During the winter months, we hold what we call schools of instruction in the money system towns. These schools are conducted by supervisors of highways from the money system department; all town officers are expected to attend and the public is invited. During the summer months the town road work is inspected by these same supervisors of highways.

Third, and most important of all. We require the entire town board and highway commissioners of a town, during the winter months, to enter into a written agreement

laying out an intelligent plan of road work for the coming season and to submit this determination and agreement to the department for approval. One of the most essential things in this agreement is that their town shall do some permanent work and build some permanent sluices. The amount of this work, of course, depends upon the amount of money available. In a town with from \$15 to \$25 a mile very little permanent work can be done, while in a town with \$1,000 a mile everything must be of a permanent nature.

This agreement provides that the town shall be divided into sections or districts and competent foremen placed in charge of each section; that the work of turnpiking and smoothing the surface of the road shall be commenced early in the spring and shall be completed by some date in June which is specified in the agreement; that in turnpiking and grading roads the work shall be done in such a manner that there shall be no shoulders or secondary ditches between the center of the road and the main ditch; that all the roads shall be smoothed after the grading has been completed by placing the scraper blade straight across the road, and by using the rut scraper so that the high places shall be cut off and the low places or depressions shall be filled; that all sods, loose stones and organic matter shall be removed from the surface of the road before its final completion; that under no circumstances shall sods, ruts, organic material or dust be scraped from the ditches and left on the surface of the road; that in building or replacing culverts, the culverts shall be placed low enough so that the top of the culvert shall be at least six inches below the surface of the road; and that all culverts shall be covered with dirt or gravel until on an even grade with the surface of the road itself; that where water is to be carried across the road it shall be done by means of culverts and not by digging a ditch across the surface of the road, or by building what are commonly known as "thank-yemas'ams."

The agreements which have been approved by the State Engineer for this year's work show that \$210,000 has been set aside for permanent sluices, and \$601,000 has been set aside for the building of permanent roads.

In 1899, the first year under the money system, \$173,000 was spent in the money system towns for highway purposes. Five years later this had increased to \$1,291,000. Last year, including bridges and extraordinary repairs, \$3,812,000 was spent. We estimate that next year, with all the towns under the money system, \$6,135,000 will be spent for highways and bridges on town roads.

Tile for draining low and swampy places, and the free use of dynamite for blasting out rocks and clay have become two very important factors in town road work.

Without losing sight of the question of drainage, or the importance of reducing grades, we are centering our greatest efforts on the smoothing of dirt roads. Personally, I believe that if dirt roads are properly puddled and smoothed in the spring of the year when the soil is in proper condition, that the road can be maintained free from dust and mud during the entire season and be as easy

and pleasant to travel over as the more expensive road.

It is a matter of interest to know that 132 towns out of the 650 under the money system are now building some stone roads; that up to the first of January, last year, 986 miles of stone roads have been completed under the money system; and that these are nearly all built of local stone and are giving satisfactory service.

In conclusion, I hope that some genius of the near future will be able to arouse the people of this State to a full realization of the importance of town roads. The highways that lead out from the town and the railroad station are of infinitely more importance than a continuous line of travel. The hamlet that is the center of an agricultural district is a market point and should have its just proportion of governmental assistance; and 73,000 miles of town roads are more important than 2,000 miles of State roads. (Applause.)

CHAIRMAN BACHELDER: — I call upon the Chairman of the Executive Committee of the National Grange, Mr. F. N. Godfrey.

GOOD ROADS AND AUTOMOBILING FROM THE FARMER'S STANDPOINT

By F. N. GODFREY, Master of the New York State Grange

MR. PRESIDENT AND MR. CHAIRMAN:

In any prepared address to this Convention I could but simply reiterate the sentiments which have been expressed by my worthy superior officers in the National Grange and also my senior officers of the Executive Committee of the National Grange. Hence, I will speak very briefly.

I am heartily in sympathy with the movement for good roads. Our organization in this State is heartily in sympathy with the movement for good roads. The farmers of New York State are blamed very largely for the sentiment against the automobilists. The gentlemen from the cities who are running their automobiles over the roads of the country should not forget that the farmers built these roads at their own expense, and hence cannot but feel some indignation when such roads are usurped by the operators of these machines and their

horses frightened. I believe, however, that this feeling is being removed. Personally, I am glad to see the automobiles coming. I like to ride in them. I enjoy seeing them pass my premises. But as these gentlemen have already said here to-day, there is no more reason why the automobile should exceed a reasonable speed upon the highways than there is for horses to be driven at a break-neck speed.

I do not propose to take up your time to-day with an address. I would like to say more upon the subject of highways and upon the influence that the farmers are bringing to bear upon the legislation in regard to the highways of this State and of this nation. But remember this: we do not object to the automobiles. We are glad to see them. As for the statement that has been made that they will take the place of the horses on our farms, I do not believe

this is true. I believe a time will never come but that we shall need the honest, faithful horse in the country, as well as in the cities also. I thank you, gentlemen. (Applause.)

CHAIRMAN BACHELDER:—The comprehensive nature of this program is found in the fact that the next speaker is from the far-away State of Nevada, Mr. James W. Abbott, late United States Highway Commissioner for the Rocky Mountain and Pacific Coast States, who will speak to us upon "Road Problems of the Pacific Coast."

ROAD PROBLEMS OF THE PACIFIC COAST

By JAMES W. ABBOTT, of Nevada

I would like to have had the chance to say a few words to you about the encouragement you are giving to this cause. I have attended nearly all the great road conventions in the past few years, and I must say that I myself have had more encouragement as to the practical results generally from this Convention than I had from all the other conventions put together. (Applause.) We have got now the ideal combination: The National Grange, the Automobilists, and the Road Makers; they make a trinity which is going to be absolutely effectual and is going to solve your road problems generally. What I wanted to tell you was about the various things in the West which are encouraging. I wanted to tell you how the automobile in Nevada had redeemed the desert. I cannot do it, the hour is so late. I wanted to tell you how in the Northwest they are solving the convict problem and how they are converting the energies of those convicts which were formerly thrown away. They are utilizing those energies on the building of roads, and they are absolutely solving the question as to how it should be done. But I cannot go into that. I wanted to tell you how the State of California has devised laws for the rapid raising of money and the construction of roads all over the State, but it won't answer now to go into that.

The only thing that I have time to say to you, is, that I believe that finally, after five or six or seven years of study they have solved the question of how road builders may use a hydro-carbon with the natural soil to make a permanent roadway cheaper than the macadam road; cheaper than any first-class road that has ever been built, and which shall be durable and at the same time shall be more efficient for all kinds of general traffic than any other kind of road that has ever been built. They are actually doing that now in the State of California. If any of you are in that State you will find Los Angeles the center of this work; you will find not less than forty different roads built on that principle. There is no patent on it; there is no royalty charged for building it; anybody who wants to go into the contracting business can build it. All he has to do is to buy himself a dumping roller; it doesn't require any special kind. But the theory is to take this hydro-carbon and mix it with the common surface of the earth and so thoroughly incorporate the hydro-carbon cementing liquid with the road surface that it is all together, and then to tamp it down with points or these rollers, which resemble in their action the feet of the sheep, until you get a road tamped down so hard that it becomes practically a cement. Gentlemen, I thank you. (Applause.)

PRESIDENT HOTCHKISS:—Gentlemen, Governor Bachelder wishes to retire and has asked me to take charge. I ask to stand up before you one of the several State engineers who are here and who are not on the program — George W. Cooley, State Engineer of Minnesota.

RUTS

By GEORGE W. COOLEY, State Engineer of Minnesota

MR. CHAIRMAN AND GENTLEMEN OF THE CONVENTION:—

I have no paper to read to this Convention. I have had no subject assigned to me. But I want to talk to you for just a very few minutes, and the text is the shortest and the most comprehensive one in the whole category of good roads literature—that is, ruts. I come from the great State of Minnesota, where we have 80,000 miles of roads, of which 79,500 are covered, almost perpetually, with ruts. There are not only ruts in the western roads, but ruts in the minds of the town supervisors. It is our duty, the first thing in the construction of roads, the first duty to build a foundation, and, first of all, to lay the foundation for that foundation by clearing the minds of our county commissioners or road overseers and our road men generally of those old, false, antiquated ideas that have descended from our forefathers and we have been using for fifty or a hundred years. That whole West contains a million miles of roads, and the road problem before this country is not macadam, not gravel, not expensive roads, but the primary dirt road of the country. There is no better road for a farmer's team to drive on, to haul any kind of a load on than a good, plain, natural road, when in its best condition.

Come with me during the harvest time through that great western country and I will show to you the broad acres of the hundreds of thousands of golden fields of waving grain and of rich corn. Listen, and you will hear the rumble of the engines pounding out the grain. Follow on, and you will see the barns and store-houses filled with the millions of bushels of harvested grain. And then follow the line of the setting sun until those farm houses are lost, on, on to the sunlit and snow-capped Rocky Mountains, passing on until you rest at last on the shores of that boundless sea on the western slope of our advanced civilization. All over that great territory you will travel over the rough roads of the West; all over that great country you find ruts in the roads that were put in there hundreds of years ago and are there to-day.

Two years ago I drove out over the western part of the State of Minnesota with a friend of mine. In passing over a road that was as crooked as a ram's horn, I said, "I wonder who would ever lay out a road like this?" My friend said to me, "You are the crazy fool, that is riding right here, that located that road thirty-five years ago." And come to trace it back, I found it was an old trail made by me on government surveys, that had been taken up and followed by the settlers of the country and had been there from that day until this. It reminded me of a little piece of poetry—some of you have read it. I will read it; it won't take but a minute, for I can read very fast:

THE CALF PATH

One day through the primeval wood
A calf walked home, as good calves should,
But made a trail all bent askew,
A crooked trail, as all calves do.
Since then two hundred years have fled,
And, I infer, the calf is dead.
But still he left behind his trail,
And thereby hangs a mortal tale.
The trail was taken up next day
By a lone dog that passed that way,
And then a wise bell-wether sheep
Pursued the trail o'er vale and steep
And drew the flock behind him, too,
As good bell-wethers always do.
And from that day, o'er hill and glade,
Through those old woods a path was made.
And many men wound in and out,
And dodged and turned and bent about,
And uttered words of righteous wrath,
Because 'twas such a crooked path;
But still they followed—do not laugh—
The first migration of that calf,
And through the winding woodway stalked
Because he wobbled when he walked.
This forest path became a lane,
That bent and turned and turned again;
This crooked lane became a road,
Where many a poor horse, with his load,
Toiled on beneath the burning sun,
And traveled some three miles in one.
And thus a century and a half
They trod the footsteps of that calf.

The years passed on in swift fleet,
 The road became a village street.
 And this, before men were aware,
 A city's crowded thoroughfare;
 And soon the central street was this
 Of a renowned metropolis.
 And men, two centuries and a half,
 Trod in the footsteps of that calf;
 Each day a hundred thousand rout
 Followed the zigzag calf about;
 And o'er his crooked journey went
 The traffic of a continent.
 A hundred thousand men were led
 By one calf near three centuries dead.

But what that means is, that those ruts in the road have been there for fifty or a hundred years, and that you and I and all the men associated in this good roads work are helping to keep them there because we haven't moved fast enough to get the officials to do their work as they should.

Out in the West they are using the statute labor tax, and we are getting about forty per cent., and sometimes only fifteen per cent., value. Passing along the highways in Minnesota I saw a crowd of men working on the road, and a gentleman who was with

me called my attention to them in a sort of paraphrase:

"Behold the Willies of the field,
 they toil not, neither do they spin;
 and yet I say to you that Solomon
 in all his wisdom never conceived
 an easier way of working out taxes."

The State of Minnesota alone has spent seventy-five millions of dollars on a system of roads of about seventy-five thousand miles — a thousand dollars a mile we have paid for the road system, and we spend two or three million dollars a year, of which I may safely say that twenty-five to fifty per cent. of it is wasted, by reason of our old, antiquated methods. Every dollar in road tax should be paid in cash. As you all know, another old idea we have to contend with is, that any man can build a road. If any of you gentlemen want to get a leg cut off you don't go to the blacksmith for it; and so, if you want a good road built you have got to have a man that understands it. It has been stated that a good road can be built anywhere out of any material, by anybody that knows how. It is simply a matter of dollars and cents, and the people furnish the dollars, the engineers will furnish the sense. (Applause.)

PRESIDENT HOTCHKISS: — On behalf of the National Committee in charge, I present to the Convention, and ask that some member move the adoption of the following resolution. It is presented for the reason that it is utterly impossible to have an open discussion at the conclusion of this session. The resolution is

RESOLVED, That in lieu of an open discussion, delegates be requested and urged to reduce their remarks to writing and submit them to the National Committee for inclusion in the printed minutes of the Convention.

Will someone move the adoption of that resolution?

(Motion to adopt resolution moved, seconded, and carried unanimously.)

PRESIDENT HOTCHKISS: — The last speaker, who is one of the best speakers on the program, Mr. D. Ward King, of the Missouri State Board of Agriculture, will now address you on "Treatment of the Earth Roads."

TREATMENT OF EARTH ROADS

By D. WARD KING, of Missouri

MR. CHAIRMAN AND FELLOW MEMBERS OF THE AMERICAN AUTOMOBILE ASSOCIATION:

This is not a fitting time for entertainment, congratulations, however, I feel are due this Convention for the stand that it has taken in giving us two great new facts. Heretofore,

and for many years the boards of agriculture of the various States, the American Civic Association, the Automobile Association, and various commercial associations, and the experiment stations all over the country have worked for the betterment of roads,

and of late years we have had the assistance of the Office of Public Roads under the direction of Mr. Dodge, and later of Mr. L. W. Page; but this is the first time in the history of the United States that we have ever seen the engineer and the farmer and the automobile man standing together for the same thing. (Applause.) The only thing I am mad about now, is, that I gave my place to my friend, Mr. Abbott, and let him say that first. The other great fact is, that until this meeting there has been no adequate recognition of the fact that there are in this country two millions of miles of the common, everyday mud road, and only one hundred and fifty thousand miles of the so-called improved roads. Never before in a convention of this character has the dirt road been recognized — another great fact. These are the new facts that I say this Convention deserves great credit for having brought into existence.

Now, there isn't time for entertainment. I have promised to tell you some things that you won't believe — and I will not find that difficult, I think. I want to confine my remarks as closely as possible to a simple, clear if possible, explanation of what we have done with the King Split Log Drag. I have nothing to sell. Nothing to sell.

First. Let us divide the subject into three parts: The efficiency of the plan, the cheapness of the plan, and its wonderful simplicity.

The most serious obstacle to the advance of the Split Log Drag System of taking care of earth and gravel roads is its simplicity. There are a great many men that cannot smell a thing unless it is painted red. Why, don't you remember, some of you older men remember, when the doctors used to prescribe cornmeal for rheumatism, to rub the afflicted joint with cornmeal, and it was a good remedy; it always gave relief, and very frequently accomplished a cure. But the point I want to make, is, that the cornmeal had nothing to do with curing the rheumatism; but the doctor, a student of human nature, understood if he told any man or woman to rub a joint carefully for rheumatism, that it was too simple, so he added cornmeal because it was in almost every household. If I could find something that would take the place of cornmeal in the

prescription that I tried to give you folks for taking care of the earth and gravel roads, a very great gain would be made. I have not yet found anything to take that place.

Within three miles of my house there are two little boys, neither one of them big enough to couple a team, but by their combined efforts they hitch up the old work team and take care of a quarter of a mile of road and keep it like a race track. The women in Missouri have been known to get on a Split Log Drag and make good roads. Anybody with ordinary ability, with a log and an axe and a two-inch auger can make this implement.

I have taken care of a half mile of road for thirteen years, beginning at my front gate and leading to my neighbor's front gate towards town. There are three very mean, clay, spouty places on that half mile of road. In these thirteen years two of those spouty places have never broken through. One of them has broken through twice; I prophesied it would break through; my son and my farm hand didn't think it needed attention when I told them it did, and it went through.

The drag that I made in the beginning was like this model that I show you. I have been carrying this model for seven years. The drag is a piece of log seven to nine feet long, split in the middle, flat sides to the front. You can write to the Office of Public Roads in the Department of Agriculture at Washington and get a bulletin that contains all this information. Be careful to get the drag wide enough. It ought to be at least thirty inches between the slabs. If thirty inches looks too wide, make it a little wider and you will be on the safe side. Hitch to it with your team with the doubletree clevice at such a point on the chain that the drag will follow the team at an angle of forty-five degrees; then get on the drag and drive one horse on each side of the right hand wheel track, with the right hand end of the drag in the ditch and drive from your front gate to your neighbor's front gate; turn and come back over the other wheel track in the same way, and quit, if you want to. That is all I ask you to do. You will have improved the road fifty to a hundred per cent.

I am asked what crown? I will answer in a minute. After the next rain or wet

spell, go down the wheel track and back again. Go down again after the third rain, and after the fourth, or wet spell, and after the fifth, sixth, and seventh wet spells. Between the fourth and the sixth wet spell you will discover that so far as the surface of the road is concerned that the road is higher in the middle than it is any other part that you travel over, and you have got surface drainage. Your road is from a hundred to five hundred per cent. better than it ever was before. After you have taken care of it by that method after six rains, it will stand ten times as much wet weather as it would before without showing bad effects from the wet weather. It will dry off after an ordinary rain in from one-fifth to one-third of the time that it usually dried off. But the main point is, that if you follow this receipt you have got surface drainage.

I have been asked if when the drag follows at an angle, the drag doesn't have a tendency to slue off and get into the ditch. I will say that nine men out of ten who do not follow the instructions that are printed as I give them make drags with a piece of iron along the full front of the slab and they put it from three-quarters of an inch to two inches below the wood, and then they wonder why that thing gets started and slues out to the side. If you make a drag according to instructions you will have no trouble. I prefer that the drag should be made out of a log about twelve inches in diameter. It ought to be made out of a light log. I prefer cedar to anything else. You do not want weight. You don't need weight. No man looks for a heavy comb when he goes to comb his hair. Taking care of the earth or gravel road is nearly parallel to a man combing his hair. If a man waits until his hair is tangled before he combs his head, he will need a heavier implement, and the same thing is true on the road. Whenever a man lets an earth or gravel road go until it needs to be fixed, he has let it go too long. An earth or gravel road ought to be fixed before it needs to be fixed. The best road material in the United States is common sense. If a man will take a drag and go out and do as I have said, use his common sense, it won't be very long till he will know how it ought to be done.

No man can thoroughly understand the

road problem unless he goes out on the road while it is pouring down rain. If you don't believe me, you try it, and see how much you have missed. You get out especially on the road and see what the enemy is doing while his battery is in operation. Don't wait until the war is over. I mean, put on your rubber clothes and see what the water is doing. I don't mean to take the drag with you, but use your eyes and your brains, you will be surprised what there is to learn by watching the action of the water on the road. The drag should be used on the road when the soil is moist, but not sticky.

Now, I beg of you folks that you won't misquote me. I met a man at a town south and west of Omaha, Nebraska, one day. He was one of the county commissioners. He didn't get to the meeting that afternoon, but when we met that evening at the train we sat down together and he began to talk about the meeting and he began to tell me things that he had heard. Said he: "Did you say so and so, Mr. King?" I said, "Yes, sir." "And did you say so and so?" "Yes," I told him, "I said that." "Well," he says, "I will tell you, I've been farming it for forty years." And then he asked me something else, and I said, "Yes, I said that." And then he said again that he had been farming for forty years. Well, finally I understood that he meant that he didn't believe what I said, and I began to take notice, and then he said something a little sharper, and it began to sound very much like a political meeting. But it occurred to me that there is nearly always a misunderstanding at the foundation of most quarrels and so I began to look for the misunderstanding. It wasn't but for a moment before I discovered that every time I said "drag," he thought I meant "harrow," and every time that he said "drag," he meant "harrow" in Nebraska. In some parts of Indiana and Michigan they use the word drag as synonymous with "harrow." As soon as I discovered that, we had no further trouble and he admitted that the things might be done.

President Roosevelt had an experience somewhat similar to that. You remember a few years ago that President Roosevelt went to Colorado and camped for a week or so. Now, presidents are just like other

people in that they prefer to be by themselves a part of the time; so, early one morning Mr. Roosevelt slipped out and got a pony and started off for a ride by himself. He enjoyed it. He rode a good ways. He did not notice that a storm was coming up until it was almost on him. As he turned and made for camp the water caught him and he got wet. As he went splashing along he saw in front of him a single open buggy in which there were a couple of ladies, and one of the ladies was carrying an umbrella. As he came closer to the buggy he noticed that this lady was holding the umbrella out over the horse, and as he jogged up beside the vehicle his curiosity got the better of his good manners and he said, "Madam, I do

not understand why it is that you ladies sit there in this drenching down-pour and hold that umbrella out over the horse?" "Oh," said one of the ladies, "I'll tell you, Mister" — of course, she didn't know it was the President — she said, "I'll tell you, Mister! this is a livery horse and the liveryman told us that we would be likely to have a good deal of trouble with it if we let the rein get under its tail." (Laughter.)

Now, I beg of you that you will not misquote me, but that if you quote me that you will use the words that I use in the same sense in which I use them.

I thank you, gentlemen, for your patience. (Applause.)

PRESIDENT HOTCHKISS: — Before we adjourn, gentlemen, for the purpose of the record, because the matter must be referred to the National Committee appointed on the recommendation of the Resolutions Committee, I ask you to note that we have an invitation from the city of Cincinnati, Ohio, and also from the city of Charlotte, North Carolina, to meet in either one or the other of those cities next year. These invitations will be referred to the Committee appointed this morning.

It has been a very, very great pleasure to the American Automobile Association to have had something to do with the calling of this Convention, and we are sincerely hopeful that the alliance here formed will in later years be productive and resultful, and that from that alliance will come a great movement for good roads in every county, in every State, built by State aid and by Federal aid. The Convention stands adjourned without day.

REPORT OF COMMITTEE ON PRACTICAL DEMONSTRATIONS

The exhibition arranged by the Committee consisted of:

1. New Road Construction.
2. Repair and Maintenance of Roads.
3. Use of Road Preservatives and Dust-Laying Applications.
4. Road Machinery.
5. Town Roads.

The work was done with the coöperation of the New York State Engineer's Department, which were represented on the Committee.

New Road Construction :

Several roads were in course of construction within easy access of the city of Buffalo, and were viewed by many delegates to the Convention, two of them being visited officially by the delegates on the afternoon of the second day of the Convention. The Goodrich Road-work showed stone crushers, rollers, wagons, graders, etc., in practical operation. The contractor for this section, Mr. Joseph Dunfee of Syracuse, N. Y., made an excellent exhibit, as did the contractor on the Clinton Street road, the Gantz-Wilson Company of Buffalo, N. Y., who laid an excellent example of brick road construction, which type of road is desirable for heavily-traveled highways near large cities.

The following is a schedule of the roads in Erie County, N. Y., under contract in July, 1908 :

No.	Name	Miles	Bottom	Top	Width	Contract
263	Aurora-Buffalo, Sec. 2, . .	4.23	3" and 5" Lime or Local	3" Lime	16'	\$39,950.00
371	Clinton Street, Sec. 1, . . .	5.65	3" Lime	3" Limestone	16'	*45,925.00
372	Clinton Street, Sec. 2, . . .	6.14	3" Lime	3" "	16'	*52,995.00
373	Goodrich,	8.77	3" and 5" Lime	3" "	12 and 16'	*69,197.00
523	Hamburg-N. Collins, . . .	8.86	5" Lime	3" "	16'	94,000.00
524	N. Collins-Lawton, . . .	5.43	5" "	3" "	16'	64,585.65
525	Lawton-Gowanda,	4.00	3" "	3" "	16'	44,446.80
526	Collins-Mortons Cor's, . .	4.01	3" "	3" "	12'	36,454.25
527	Ham.-Springville, Sec. 1, .	9.47	6" Gravel	3" "	12'	72,915.00
528	Ham.-Springville, Sec. 2, .	7.34	6" "	3" "	12'	61,257.75
529	Alden-Town Line-Marilla, .	6.02	3" Lime	3" "	12 and 16'	45,596.90
530	Base Line-Grand Island, 1,	1.81	3" "	3" "	16'	13,696.75
531	Base Line-Grand Island, 2,	2.59	3" "	3" "	14'	18,194.65
532	Base Line-Grand Island, 3,	1.87	3" "	3" "	12'	10,425.35
584	Skinner's-New Home Bridge,	7.96	5" "	4" "	12'	76,010.70

* NOTE: — On Road No. 371 extra work has been ordered for brick pavement amounting to about \$90,000.

On Road No. 372 extra work has been ordered for brick pavement, etc., to about \$15,000.

On Road No. 373 extra work has been ordered for extra macadam and block paving amounting to about \$7,000.

Repair and Maintenance of Roads :

The delegates also visited the repair and maintenance work being done on the Main Street road, Section No. 1, between the City Line and Williamsville, where bad ruts were being patched after the application of Tarvia B by painting them with Tarvia A and leaving a surplus sufficient to force up through the three-fourth-inch stone with which the ruts were filled. The stone was then rolled with a five-ton asphalt roller, and if the tarvia did not come to the surface more was added and, with another coating of screenings, was thoroughly rolled.

A badly rutted and neglected State road, known as Main Street road, Section No. 2 (length, 1.93 miles; width of macadam, 16 feet), was repaired and placed in excellent

condition during the Convention and the few days preceding. This work was done by the addition of two-inch stone and screenings thoroughly rolled and puddled, using a ten-ton road roller and two 600-gallon sprinklers.

In this connection attention is called to the use of road preservatives and dust-laying applications.

Calcium Chloride, by the Calcide Process Company, Boston, Mass.:

Calcide being especially adapted for use on roads where dwellings are adjacent, the Calcide Process Company treated a section in the residential district of Buffalo for the Good Roads Convention.

An exhibition was made of the methods of applying the calcide from a two-horse water cart outfit to a garden-hose attachment, the latter being used where water carts are not available.

The forty per cent. calcide was shipped from Syracuse to Buffalo in a tank car, then drawn off into a specially-fitted cart and mixed by a mechanical process, patented by the Calcide Process Company, and then applied to the roads.

One hundred and ten gallons of forty per cent. liquor was mixed with four hundred ninety gallons of water, and the resultant solution applied to nineteen hundred square yards of road surface from the water cart. A second application was made a few days later and the road was in condition to go, with a coat of water now and then, for three weeks before another application should be necessary.

The cost of application, including team hire, was three-tenths of one cent per square yard for one application; allowing for ten applications during the season, the cost of the calcide and its application should be three cents per square yard; with an allowance of one cent for incidental expenditure and whatever watering is necessary, the cost of four cents per square yard for the entire season should be ample. A cart fitted with the calcide process will treat nineteen thousand square yards a day, and average three hundred and eighty thousand square yards per month, caring for that area regularly.

Calcide has no odor, is stainless, and has no harmful effects on horses' feet, leather, or rubber tires. A road treated with calcide wears well and has a very pleasing color.

Oil, in the City of Buffalo on Park Roads:

This treatment consisted of sprinkling with ordinary water sprinklers, using Standard Oil Company's pail oil No. 875, to a width of about thirty feet.

To sprinkle 2,575 lineal feet of roadway thirty feet wide 1,274 gallons of oil were required, which, at six cents a gallon, cost \$76.44; the cost of labor and teaming was \$12; or a total cost of \$86.44 for the treatment of 8,583 square yards, or at the rate of about one cent a square yard.

Kentucky Rock Asphalt, by the Wadsworth Stone and Paving Company of Pittsburg, Penn.:

The demonstration of The Wadsworth Stone and Paving Company of their Kentucky Rock Asphalt as a binding and surfacing material for a macadam road was made on the State road just east of Williamsville.

The crown of the original macadam road had been worn away and the surface left nearly flat. This old surface was loosened by being picked by a steam roller for a distance of about 500 feet in length and sixteen feet wide (the width of the original macadam). On this loosened surface was spread crushed limestone, in size from one and one-half inches to two and one-half inches in their longest dimensions. These coarse stones were spread about four inches thick in the center of the road and thinner toward the edges, until there was barely a single layer of new stone at the shoulder. By this method of spreading a crown was given the road of about one-half ($\frac{1}{2}$) inch to the foot. This layer of stone was firmly rolled by a steam roller, in the same manner as usual in ordinary macadam road construction.

Owing to the richness in asphalt of the product of the Wadsworth mines and the conse-

quent adhesiveness of the material, it was found advantageous to repulverize the material as it was used. This was accomplished by putting it through a small disintegrator driven by a two-horse power gasoline engine.

From the disintegrator the material was wheeled to the road and immediately spread with an ordinary steel garden rake.

The asphalt was applied to the road in two layers and in the following manner:

The first layer was spread on the firmly-rolled surface of two and one-half-inch stone, about three-fourths of an inch thick, and raked uniformly over the entire surface of the road. After the first course of asphalt was spread, a layer of one-inch crushed stone was spread as evenly as possible on the asphalt, and then rolled; the one-inch stone serving to force the asphalt into the voids of the two and one-half-inch stone below, thus making a secure bond.

After rolling, the second layer of asphalt, about three-fourths of an inch thick, was applied and rolled, and the section of road was immediately opened to traffic.

The demonstration covered a section of road 450 feet in length and sixteen feet wide, a total of 800 square yards.

The crushed stone for resurfacing the road and the steam roller was furnished by the State, and the spreading and rolling of the stone was done under the direction of Mr. Frank L. Cohen, contractor for State road repairs in Erie County, New York. The "Kentucky Rock Asphalt" was furnished and laid by the Wadsworth Stone and Paving Company of Pittsburg, Pa., under the direction of their chief engineer, Mr. Asa Goddard.

On surfacing the 800 square yards of road, 63,200 pounds of rock asphalt was used, at a cost of \$269.43, f. o. b. car at Williamsville.

Following is a table showing details of cost of material and laying:

Items	Cost per Square Yard	Total Cost	Percentage of Total
	Cents	Dollars	Per Cent.
Asphalt at Bowling Green, Ky., . .	19.75	\$158.00	44.2
Freight to Williamsville, N. Y., . .	13.93	111.43	31.2
Unloading from cars,	1.5	12.00	3.44
Teaming from cars,	3.25	26.00	7.22
Repulverizing Asphalt,	1.87	15.00	4.2
Wheeling Asphalt to the work,94	7.50	2.1
Spreading Asphalt,94	7.50	2.1
Rolling Asphalt,	2.5	20.00	5.6
Total,	44.68	\$357.43	100.0

Owing to the demonstration being a very small job, requiring but two days to complete, the cost per square yard is excessive, owing to the fact that the cost of preparation for doing this small job was just the same as would be necessary to prepare for the surfacing of a mile or more of road.

Again, the men employed were entirely unfamiliar with the material and methods of application and could hardly be expected to get accustomed to it in two days.

The result of the demonstration is a smooth and permanently dustless piece of road costing from twenty per cent. to thirty-five per cent. more than ordinary macadam, and, in addition to being dustless and mudless, should sustain an equal amount of traffic at least 100 per cent. longer.

Asphaltoilene by The Good Roads Improvement Co. of Cincinnati, Ohio.

Seven thousand lineal feet of Main Street road, in Sec. No. 3, sixteen feet width of macadam, were treated with asphaltoilene, which was applied by use of a sprinkler, especially made for the purpose. The approximate cost of this work was as follows:

4,800 gallons asphaltoilene at 6 cents,	\$288.00
Freight, etc.,	68.00
Labor, Teams, etc.,	95.00
Miscellaneous,	84.00

Total, \$535.00

or about four and one-fourth cents per square yard.

This treatment appeared to give very general satisfaction. The road at this writing, August 1, 1908, is still moist and absolutely dustless.

Tarvia, by Barrett Manufacturing Company, New York City.

Eighteen thousand lineal feet of sixteen-foot macadam road were treated with Tarvia B, on the section of highway between the city of Buffalo and the village of Williamsville. The approximate cost was:

10,230 gallons of Tarvia B at 5 cents,	\$511.50
Freight,	153.45
Labor, etc.,	270.00
Total,	\$834.95

at the rate of two and six-tenths cents per square yard.

The method of application was as follows:

The road was swept free from dust, using the ordinary horse sweeper. The tarvia was then applied from tank wagons fitted with a perforated pipe sprinkler, the application being made to one side of the road, allowed to penetrate, covered with sand and sweepings to prevent Tarvia picking up on tires, shoes, etc. No tarvia was applied on opposite side until side treated was ready for traffic.

Road Machinery:

Various types of road machinery were exhibited on Bailey Avenue near the city line, the principal exhibit being made by the Buffalo Steam Roller Company which demonstrated a complete hauling outfit, consisting of a fifteen-ton hauling engine, and a train of five-yard dump wagons, also a twelve-ton steam road roller, a ten-ton tandem roller and a scarifier.

An excellent type of road scraper, which graded a most difficult section of clay road filled with rocks and stumps, was exhibited by C. S. Barron of New York City. The machine used was a 600-pound Twentieth Century, and was operated with one man and one team without the use of picks or shovels.

The Root Scraper Company, of Kalamazoo, Mich., exhibited their Good Roads machine, which is intended to finish roads and keep them smooth after they have been graded.

The Watson Wagon Company's dump wagons were shown in operation.

Town Roads:

The work of grading, graveling and macadamizing town roads in the towns of Cheektowaga and West Seneca under the direction of the respective highway commissioners, and under the provisions of the New York State Money System Law, were viewed by the delegates. The cost of this work ranges from \$100 to \$1,800 per mile.

The committee desire to express its appreciation to the several companies and individuals who conducted the demonstrations, as to them is largely due the success of this feature of the Convention.

GEORGE C. DIEHL, Chairman.

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